

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY)
THE OIL CONSERVATION DIVISION FOR THE)
PURPOSE OF CONSIDERING:)

APPLICATION OF GANDY MARLEY, INC., TO)
MODIFY THEIR EXISTING NMOCD RULE 711)
PERMIT NO. NM-01-019 SO THAT THEY MAY)
ACCEPT SALT-CONTAMINATED OILFIELD WASTES)

CASE NO. 13,480

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: WILLIAM V. JONES, JR., Hearing Examiner

Volume I, May 23rd, 2005

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, WILLIAM V. JONES, JR., Hearing Examiner, on Monday, May 23rd, 2005, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

2005 JUN 2 PM 2 47

I N D E X

May 23rd, 2005 (Volume I)
 Examiner Hearing
 CASE NO. 13,480

	PAGE
EXHIBITS	4
ADDITIONAL SUBMISSIONS, NOT OFFERED OR ADMITTED	6
APPEARANCES	9
MOTION BY GANDY MARLEY, INC.	15
MOTION BY CONTROLLED RECOVERY, INC.	19
OPENING STATEMENTS:	
By Mr. Domenici	20
By Mr. Marsh	28
By Mr. Feldewert	30
By Dr. Neeper	33
GANDY MARLEY WITNESSES:	
<u>BILL MARLEY</u> (Part-Owner, Gandy Marley; Landowner)	
Direct Examination by Mr. Domenici	34
Voir Dire Examination by Mr. Feldewert	39
Direct Examination (Resumed) by Mr. Domenici	41
Voir Dire Examination by Mr. Feldewert	48
Direct Examination (Resumed) by Mr. Domenici	50
Cross-Examination by Mr. Feldewert	70
Examination by Dr. Neeper	95
Examination by Ms. MacQuesten	97
Redirect Examination by Mr. Domenici	98
Recross-Examination by Mr. Feldewert	101
Further Examination by Mr. Domenici	103
Examination by Examiner Jones	107
Examination by Mr. Apodaca	119
Further Examination by Examiner Jones	124
Further Examination by Mr. Apodaca	126
Further Examination by Examiner Jones	127
Further Examination by Mr. Domenici	128
Voir Dire Examination by Examiner Jones	129

(Continued...)

MOTION BY CONTROLLED RECOVERY, INC. 129

GANDY MARLEY WITNESSES (Continued):

PATRICK CORSER (Geotechnical Engineer)
 Direct Examination by Mr. Domenici 135
 Cross-Examination by Mr. Feldewert 159
 Examination by Dr. Neeper 183
 Examination by Ms. MacQuesten 184
 Redirect Examination by Mr. Domenici 188
 Recross-Examination by Mr. Feldewert 193
 Examination by Examiner Jones 195

WILLIAM L. MANSKER (Geologist)
 Direct Examination by Mr. Domenici 204
 Cross-Examination by Mr. Feldewert 241
 Redirect Examination by Mr. Domenici 260
 Examination by Examiner Jones 260
 Further Examination by Mr. Domenici 271

EDWIN E. MARTIN (Environmental Engineer,
 Environmental Bureau, NMOCD)
 Direct Examination by Mr. Domenici 290
 Cross-Examination by Mr. Feldewert 293
 Examination by Dr. Neeper 318
 Examination by Ms. MacQuesten 319
 Redirect Examination by Mr. Domenici 325
 Recross-Examination by Mr. Feldewert 330
 Examination by Examiner Jones 332
 Further Examination by Ms. MacQuesten 336

NEW MEXICO CITIZENS FOR CLEAN AIR & WATER, INC., WITNESS:

DONALD A. NEEPER, PhD (Physicist;
 expert in vadose zone transport)
 Direct Testimony by Dr. Neeper 344
 Voir Dire Examination by Mr. Domenici 347
 Direct Testimony (Resumed) by Dr. Neeper 349
 Examination by Mr. Domenici 368
 Examination by Mr. Feldewert 375
 Examination by Examiner Jones 377

REPORTER'S CERTIFICATE 379

* * *

E X H I B I T S

Gandy Marley	Identified	Admitted
Exhibit 1	36	43
Exhibit 2	37	43
	(provisionally admitted)	
Exhibit 3	37	43, 145
Exhibit 4	43	-
Exhibit 5	46	51
Exhibit 6	51	53
Exhibit 7	54	61
Exhibit 8	56	60
	(provisionally admitted)	
Exhibit 9	57	60
	(provisionally admitted)	
Exhibit 10	62	68
Exhibit 11	62	68
Exhibit 12	63	65
Exhibit 13	63	65
Exhibit 14	65	65
Exhibit 15	66	68
Exhibit 16	68	68
Exhibit 17	103	-
Exhibit 18	128	128
Exhibit 19	128	129
Exhibit 20	157	191
Exhibit 21	189	191
Exhibit 22	211	221
Exhibit 23	218	221
Exhibit 24	223	276
Exhibit 25	223	276
Exhibit 26	275	275
	(provisionally admitted)	

(Continued...)

E X H I B I T S (Continued)

Gandy Marley	Identified	Admitted
Exhibit 27	279	-
Exhibit 28	339	341

* * *

Controlled Recovery	Identified	Admitted
Exhibit 1	79	341
Exhibit 2		
Exhibit 3	85	341
Exhibit 4	82	341
Exhibit 5	311	341
Exhibit 6		
Exhibit 7	83	
Exhibit 8		
Exhibit 9		
Exhibit 10		
Exhibit 11		
Exhibit 12		
Exhibit 13		
Exhibit 14		
Exhibit 15		
Exhibit 16		
Exhibit 17		
Exhibit 18		
Exhibit 19		
Exhibit 20		
Exhibit 21		
Exhibit 22		
Exhibit 23	309	341
Exhibit 24		

* * *

(Continued...)

E X H I B I T S (Continued)

NMCCAW	Identified	Admitted
"Testimony Regarding Case 13,480, Donald A. Neeper, PhD, on behalf of New Mexico Citizens for Clean Air & Water, Inc."	343	-

* * *

Additional submissions, not offered or admitted:

	Identified
Letter dated April 26th, 2005 from Patrick H. Lyons Commissioner of Public Lands State of New Mexico	12
Letter dated May 4th, 2005 from Leonard Carpenter Operations Manager Harvey E. Yates Company Artesia, NM	12
Letter dated May 17th, 2005 from Randy G. Patterson Executive Vice President of Exploration and Production Yates Petroleum Corporation Artesia, NM	12
Letter dated May 18th, 2005 from Jeff Harvard President, Harvard Petroleum Corporation Roswell, NM	12
Letter dated May 3rd, 2005 from Mike Hanagan Manager, Manzano, LLC Roswell, NM	12

(Continued...)

Additional submissions, not offered or admitted:
(Continued)

	Identified
Letter dated May 3rd, 2005 from Rory McMinn Manager, Eagle Resources, LP Roswell, NM	12
Letter dated May 16th, 2005 from Johnny C. Gray President, Marbob Energy Corporation Artesia, NM	12
Letter (undated) from Roy L. McKay President, McKay Capital Corporation Roswell, NM	12
Letter dated May 4th, 2005 from Mark B. Murphy President, Strata Production Company Roswell, NM	12
Letter dated May 2nd, 2005 from Phelps White President, Primero Operating, Inc. Roswell, NM	12
Letter dated May 6th, 2005 from Donald G. Becker, Jr. President, Morexco, Inc. Roswell, NM	12
Letter dated May 6th, 2005 from Joseph J. Kelly President, Elk Oil Company Roswell, NM	12
Letter dated May 11th, 2005 from Mike Boling Boling Enterprises, LTD Roswell, NM	13
Letter dated May 4th, 2005 from Cindy J. Graham, Caprock, NM	13

(Continued...)

Additional submissions, not offered or admitted:

	Identified
Letter dated May 3rd, 2005 from Jack Luce, Tatum, NM	13
Letter dated May 11th, 2005 from Carl L. Johnson, Tatum, NM	13

* * *

A P P E A R A N C E S

FOR THE DIVISION:

TED APODACA
Assistant General Counsel
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

GAIL MacQUESTEN
Deputy General Counsel
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

FOR GANDY MARLEY, INC.:

DOMENICI LAW FIRM, P.C.
Attorneys at Law
6100 Seagull St. NE, Suite 205
Albuquerque, New Mexico 87109
By: PETER V. DOMENICI, JR.
and
LORRAINE HOLLINGSWORTH

FOR CONTROLLED RECOVERY, INC.:

HOLLAND & HART, L.L.P., and CAMPBELL & CARR
110 N. Guadalupe, Suite 1
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: MICHAEL H. FELDEWERT

* * *

ALSO PRESENT:

DONALD A. NEEPER
New Mexico Citizens for Clean Air and Water, Inc.
Los Alamos, New Mexico

* * *

1 WHEREUPON, the following proceedings were had at
2 8:25 a.m.:

3 EXAMINER JONES: Good morning, everyone. This is
4 a continuation of Examiner Hearing Docket Number 16-05. We
5 heard the other cases on -- last Thursday. And we'll
6 finish up the final two cases today, on the docket. That's
7 page 6 of the docket, if you have a copy of it.

8 My name is William Jones, I'll be -- I'm
9 appointed as the Hearing Examiner today. And Ted Apodaca
10 is my attorney, the Division attorney, for this hearing,
11 and he'll be helping me considerably today, so -- he
12 already has.

13 And first of all, we need to announce that the
14 Artesia Aeration case, Number 13,481, which was the
15 Application of Artesia Aeration, L.L.C., to modify its
16 existing NMOCD Rule 111 permit so that they may accept
17 salt-contaminated oilfield waste, has been withdrawn as --
18 last week, and the Division issued a letter last Friday to
19 Artesia Aeration, advising them that they can no longer
20 take salt-contaminated oilfield waste. So we won't hear
21 that case today, it won't be -- That case is gone.

22 At this time let's call Case 13,480, Application
23 of Gandy Marley, Inc., to modify their existing NMOCD Rule
24 711 Permit No. NM-01-019 so that they may accept salt-
25 contaminated oilfield wastes.

1 First, we'll call for appearances in this case.

2 MR. DOMENICI: Good morning, Pete Domenici, Jr.,
3 and Lorraine Hollingsworth. We're here for the Applicant.

4 MR. FELDEWERT: May it please the Examiner,
5 Michael Feldewert with the Santa Fe office of the law firm
6 of Holland and Hart on behalf of Controlled Recovery, Inc.

7 MS. MacQUESTEN: Gail Macquesten, representing
8 the OCD.

9 DR. NEEPER: Donald Neeper, appearing pro se as a
10 spokesperson for New Mexico Citizens for Clean Air and
11 Water.

12 EXAMINER JONES: Any other appearances?

13 Okay, we've got a little cheat sheet here, we're
14 going to announce -- try to structure this hearing a little
15 bit.

16 MR. FELDEWERT: Mr. Examiner, could I ask one
17 question before we commence that?

18 You mentioned the Artesia Aeration case and that
19 a letter had been sent advising them they could no longer
20 take salt-contaminated waste. Did that -- I'm assuming
21 that letter, then, effectively rescinded the order,
22 12,307-A, which had been in place for Artesia Aeration,
23 giving them temporary authority.

24 MR. APODACA: That was indeed the intent, Mr.
25 Feldewert. That emergency order no longer applies to them.

1 I believe when the OCD Director returns there may be a
2 formal order confirming that issue as well.

3 MR. FELDEWERT: I understand, thank you.

4 EXAMINER JONES: Okay, what we're going to do is,
5 we have some letters received by the OCD, I'm going to call
6 out the names of these letters and the dates we received
7 them, and they'll be just here for anybody to look at.
8 They'll be part of the record in this case.

9 We have State of New Mexico, Commissioner of
10 Public Lands, sent a letter on April the 27th [sic]
11 pertaining to this case;

12 Harvey E. Yates Company, May the 9th, pertaining
13 to this case;

14 Yates Petroleum Corporation, received May 19th;

15 Harvard Petroleum Corporation, received May the
16 20th;

17 Manzano, L.L.C., received May the 5th;

18 Eagle Resources, L.P., received May the 6th;

19 Marbob Energy Corporation, received May the 18th;

20 McKay Capital Corporation, received May the 9th;

21 Strata Production Company, received May the 6th;

22 Primero Operating, Incorporated, received May the
23 6th;

24 Morexco, Incorporated, received May the 9th;

25 Elk Oil Company, received May the 9th;

1 and these, I think, from individuals:

2 Mike Boling, received May the 16th, he's from
3 Roswell;

4 Cindy Graham from Caprock, New Mexico, received
5 May the 9th;

6 Jack Luce, received May the 6th;

7 and one more from Carl L. Johnson, Tatum, New
8 Mexico, received May the 19th.

9 Okay, we're going to go by this procedure today.
10 First of all, we'll hear brief opening statements from the
11 parties intending to put a case on in chief of what their
12 evidence will show, who they intend to call, and what the
13 witnesses will testify to. Try to keep that to 10 to 15
14 minutes, in that range.

15 And then to let you know that -- probably already
16 know this. Gandy Marley needs to -- has the burden of
17 proof to -- for its Application to be granted in this case.

18 The order --

19 MR. APODACA: I'll just wrap this up. The order
20 of presentation of witnesses will be, Gandy Marley will, of
21 course, put on its case first. Their witnesses will, of
22 course, be on direct, and then opportunity for cross-
23 examination by CRI, Oil Conservation, and Dr. Neeper, if
24 they so wish, in that order. There may also be redirect
25 opportunity for those witnesses from Gandy Marley.

1 At the conclusion of Gandy Marley's witnesses,
2 CRI will then be able to put on its case, and its witnesses
3 in turn will also be subject to cross-examination by Gandy
4 Marley, OCD and Dr. Neeper, in that order, if they so wish.

5 At the conclusion of testimony, the witnesses for
6 either party and cross-examination and redirect, the
7 Hearing Examiner may also want to ask some questions of the
8 witnesses.

9 I believe the Oil Conservation Division has
10 indicated in its prehearing filing that it's not intending
11 to present a case in chief but reserves the right to call
12 rebuttal witnesses, and it may do so at the end of CRI's
13 case. And of course, if witnesses are indeed called, they
14 will also be subject to cross-examination and questioning
15 by the Hearing Examiner.

16 I believe Dr. Neeper has indicated that he has
17 only wanted to do cross-examination and is not going to be
18 introducing any direct evidence. Is that correct, Dr.
19 Neeper?

20 DR. NEEPER: That's incorrect. I have evidence
21 and an exhibit.

22 MR. APODACA: All right, then we'll take that in
23 appropriate order, subject to objection by the parties.

24 At the end of the hearing, then, any party that
25 has been putting on a case will have an opportunity to put

1 on a closing statement.

2 Again, we would request that they not be longer
3 than 10 to 15 minutes in duration.

4 We'd like to encourage the parties to be brief
5 and concise. The hearing will go till 5:00 p.m. today.
6 Hopefully we can conclude it today, but if not possible --
7 I hate to encourage the lawyers to that effect, but if
8 that's not possible we will continue it to tomorrow, but
9 we'll start a little bit later, at 9:15. But we will
10 finish tomorrow, because the OCD staff has a retreat on
11 Wednesday, so we'll have to finish it tomorrow, no matter
12 how long it takes.

13 Are there any other pending motions, other than
14 CRI's, to limit the scope of the Gandy Marley case, pending?

15 MR. DOMENICI: We'd like to make a motion.

16 MR. APODACA: Proceed.

17 MR. DOMENICI: We would like to raise the issue
18 of standing of CRI. They have filed a prehearing
19 statement. There's nothing in that that indicates an
20 interest in this Application under the Oil and Gas statute.
21 And to be a party to a hearing, 70-2-23 requires that any
22 person having an interest in the subject matter shall be
23 entitled to be heard.

24 In looking at their prehearing statement, they
25 don't indicate any property interest adjacent or that could

1 possibly be impacted, they don't indicate any public
2 interest that they represent or speak on behalf of, they
3 don't indicate any interest in the water resources that are
4 at issue.

5 They then -- they make two basic arguments, at
6 least as far as we can tell. One is that they claim there
7 may -- the site may pose a threat to the public health and
8 environment. And the other is that the OCD procedures
9 don't -- are inadequate because they don't follow the
10 analysis utilized by the New Mexico Environment Department
11 for similar facilities.

12 Certainly, we feel for the second issue there,
13 they are not -- they don't have standing to speak on behalf
14 of the State Legislature or to make rules or even propose
15 rules in an adjudicatory hearing for the OCD to somehow
16 change its protocol for permitting these types of
17 facilities, which is what they appear to say.

18 Other than that, they cite no interest in -- that
19 would give them standing to allege on behalf of the State
20 or of the State Legislature or the New Mexico Environment
21 Department that these regulations that are the law, that
22 are promulgated under the Oil and Gas Act, that apply to
23 all the facilities in the State, they cite no basis why
24 they would alone be entitled to step forth and challenge
25 those.

1 And similarly with the water and the public
2 health, they don't cite any impact that they might have or
3 that they would represent.

4 So we would suggest that they don't have standing
5 to pursue this -- that they're not, in fact, an interested
6 party.

7 MR. APODACA: Before Mr. Feldewert responds --
8 and I'm sure he wants to respond -- is there any reason
9 this motion wasn't brought sooner?

10 MR. DOMENICI: Well, we weren't aware of their
11 position until we received their filing, which we received
12 on the 16th. I know it was filed the 13th, but it was
13 mailed to us.

14 And in examining and in looking at these issues
15 and trying to identify the substance from the outlines
16 that's very -- are very obscure, we had to -- we had to
17 have an opportunity to convene with our witnesses -- one of
18 them -- one of them just made it into -- back in the United
19 States last night -- regarding the water-resource issue.

20 And as far as the solid-waste issue, frankly, no,
21 we've been focusing on other issues. But it came to our
22 attention, and it's becoming clear in reviewing other files
23 and other cases that CRI has been involved in during our
24 prehearing prep that they followed this approach on
25 numerous occasions with effectively only an economic

1 interest, solely and only an economic interest, as being
2 the basis for standing.

3 And we think it's clear that's the case here.
4 That's all -- the only interest they have is an economic
5 interest, and that is not enough for standing under
6 Constitutional requirements, it is -- it's not enough under
7 the Statute either.

8 MR. APODACA: Mr. Feldewert?

9 MR. FELDEWERT: Yes, I think timing is an issue
10 here. I mean, we entered an appearance with respect to the
11 emergency order that was issued. The Division actually
12 notified Controlled Recovery, Inc., of the -- of these
13 proceedings and the emergency order.

14 So I think that the Division has itself
15 determined that it is important to have properly permitted
16 facilities like Controlled Recovery, Inc., advised of
17 proceedings in which -- of this nature. I think there's a
18 public interest involved here, there is a general interest
19 of the public as a whole, as well as properly permitted
20 facilities, to ensure that the permitting process and the
21 procedures that are applicable to this type of application
22 are followed.

23 I think Mr. Fesmire's letter that he sent out to
24 Controlled Recovery, Inc., indicated that he wanted input
25 by these properly permitted facilities.

1 So I think the Division's -- by its actions and
2 by its regulations and providing public notice, has
3 certainly given these facilities standing.

4 And I would suggest that the rules of standing
5 with respect to these kind of administrative issues are
6 very liberally construed.

7 And CRI essentially is here as part of the
8 general public, they are here as part of a properly
9 permitted facility, and they are here at the invitation of
10 the Oil Conservation Division.

11 MR. APODACA: I think we'll take this matter
12 under advisement, and we'll proceed with opening
13 statements, unless there are any further procedural motions
14 a party wants to bring?

15 MR. DOMENICI: Nothing further.

16 MR. APODACA: First of all, there is a -- besides
17 the motion that Mr. Domenici made this morning, there is a
18 second motion that was filed by CRI to limit the scope of
19 evidence that will be taken at this hearing by the
20 Examiner.

21 Specifically, CRI has requested that additional
22 material it claims has been introduced through the
23 prehearing appli- -- I'm sorry, the prehearing filing of
24 Gandy Marley and that that should not be part of this
25 hearing, I want to further announce that we're going to

1 take that matter under advisement.

2 We will hear all the evidence during this
3 hearing. If we -- if the Hearing Examiner, rather, decides
4 that that motion should be granted, then we will not
5 consider the evidence that CRI claims is beyond the scope
6 of the original application in rendering our decision.

7 So with that, I think we will give each party an
8 opportunity to make its opening statement.

9 MR. DOMENICI: Thank you. Mr. Hearing Officer,
10 we're here on a modification to an existing permit, and we
11 think it's critical that the -- that the -- at least from
12 our perspective, this hearing focus on the fact that we are
13 modifying a permit that has been in place for ten years.

14 And the reason for this modification was set
15 forth at the emergency-order hearing, but I want to just
16 reiterate it real briefly for the record.

17 What happened is -- and what the testimony will
18 verify is, we obtained a permit in 1994. It was a so-
19 called landfarm permit. It allowed us to accept all
20 oilfield waste. We did that for over a decade,
21 successfully, adequately. We have a recent inspection
22 report we will present that demonstrates the facility's
23 current status with respect to OCD.

24 In early 2005, OCD unilaterally modified our
25 permit and indicated we were not allowed to continue to

1 accept salt-contaminated waste. And they offered both an
2 emergency interim process and also this process to obtain a
3 modification.

4 So we think it's -- the reason that it's
5 important is, many aspects of our landfarm permit that
6 we've been operating under for the last decade are not
7 addressed in our Application. We are not suggesting they
8 be revisited, we don't think it's appropriate that they be
9 revisited.

10 We think what is appropriate for this hearing is
11 that for the items that we are requesting modification,
12 that we establish through -- to meet our burden of proof,
13 that it is appropriate for the Hearing Officer, Hearing
14 Examiner, to find in our favor on those issues.

15 And we think once -- when we get through
16 explaining what our landfarm permit is and what it
17 controls, the modifications will be relatively modest, even
18 though it was prejudged, predetermined this is a major
19 modification, and we don't really challenge that.

20 In effect, the footprint of this facility is not
21 going to change, Mr. Hearing Examiner. It is the same
22 size. The transportation in and out is not changing
23 whatsoever. The way in which waste is handled before it is
24 either farmed or landfilled is not changing.

25 We have a modification to our landfarm permit --

1 it took place in 1997 -- which is important, because that
2 addresses the only activity as our -- part of our facility
3 that has an H₂S concern. We are not seeking to modify that
4 provision at all. That's our solidification process. We
5 are not asking to change that, we're not -- we don't think
6 we should have any burden of proof to show that what was done in
7 1997 has been accepted, needs to continue to be acceptable
8 or needs to be changed.

9 So in going forward with this approach that what
10 we are changing is essentially the idea that some wastes
11 that make it to our -- through our waste-intake process and
12 are ready for emplacement, some of those wastes will be
13 permanently emplaced in a landfill, as opposed -- in a
14 landfill cell, as opposed to being farmed in a landfarm
15 cell. That is the heart of what our -- or what we're
16 proposing.

17 And if we look at that, essentially the heart of
18 what we feel is at issue is the design of those landfill
19 disposal cells. And that's the first attachment on our
20 Application. It is a cross view showing the dimensions,
21 the slope and the size of these landfill disposal cells.

22 There will be testimony that that design can be
23 constructed by any licensed contractor, that it's familiar,
24 it's used, it's commonly used landfill cell design.

25 As a result of using that design, we will not

1 have any additional closure costs for this facility. The
2 clo- -- since we're not changing the footprint and we're
3 not changing the cover on top of whether it's a landfill
4 cell or a landfarm cell, at the end of the useful life of
5 that cell we will put a two-foot cover and re-vegetate,
6 which is exactly what the closure plan calls for now, for a
7 130-acre facility.

8 We are not modifying the closure plan, and
9 therefore we are not modifying the closure bond, which has
10 been in place -- it's been adjusted over time, but it's
11 currently in place and it governs our entire landfarm
12 facility and would allow us to be in a position to have
13 closure for the 130-acre -- entire 130-acre project.

14 In fact, what the testimony will show is, the way
15 we'll operate each individual landfill cell is, we will
16 close those as we fill them. So at the -- the closure
17 costs and the closure activity will actually be less with
18 the landfill than landfarm cells.

19 So to the extent we use some of these cells that
20 are part of this footprint for landfill, we will actually
21 be reducing our closure activities and would in effect
22 reduce our closure cost. And we're not asking for any
23 reduction in our closure costs.

24 We are proposing -- So our position is, if that's
25 what this hearing is about, is, should we be allowed to

1 build -- put landfill cells in this facility, what really
2 needs to be established is that the design of that cell is
3 appropriate, that the cover -- enclosure and cover and
4 closure costs related to that cell are appropriate, and
5 that the act of landfilling, as opposed to landfarming,
6 does not cause a threat to groundwater resources or the
7 public health and the environment.

8 We have -- Since, 1994, we have filed -- or
9 starting in 1994, we filed a detailed hydrogeological
10 description of the site. And we're on the same site, as I
11 indicated. That document was filed by, the evidence will
12 show, by a consulting -- environmental consulting firm
13 called Stoller, Incorporated. It was the result of a
14 substantial drilling and geotechnical evaluation that took
15 place in 1994. That geotechnical analysis has been carried
16 forward in our renewal in 1999, and it's carried forward in
17 this Application.

18 And all of those reference the studies that took
19 place in 1994, Stoller signed off on the original
20 application and verified as evidence that those original
21 studies provided the basis for the hydrogeological
22 description of the facility.

23 What we will -- To further that, we will indicate
24 that there are at least two pieces of data that are fairly
25 recent, related to the groundwater issues.

1 One is, there are soil sampling -- surface soil
2 sampling showing leaching that has occurred over the 10-
3 year active life of the facility, and those will show very
4 slight leaching, virtually no leaching. So they will show
5 that the potential to leach is -- which they will confirm,
6 essentially, that the potential to leach is very slight.

7 The other piece of evidence is, we have drilled
8 two wells during this very short time period between when
9 we received a unilateral modification and have been forced
10 to appear at a full-blow evidentiary hearing.

11 And I know there's an objection saying that well
12 data should not come in. We think that data should come
13 in, we think it will confirm the geo- -- hydrogeological
14 description of the property, we think it's appropriate to
15 bring in confirmatory evidence.

16 And that evidence will show that there is perched
17 water beneath the facility, which was not unexpected. It
18 will show that the quality of that is unusable for
19 ranching, which is what this entire facility surface use,
20 outside of the waste disposal -- the entire facility has
21 historically been ranching and it will continue to be
22 ranching. It will also show that the water doesn't yield
23 sufficient volume to be useful for any purpose, ranching,
24 agriculture, domestic.

25 And we will further demonstrate that the

1 geohydrologic information, particularly the stratigraphy
2 beneath the site, is protective of that perched water
3 anyways. There is 100 feet or so of impermeable clay,
4 which we will call the upper Dockum, but it will be called
5 different things by our geologist. Basically, it's a
6 perfect type of material to protect perched water.

7 We will also show that perched water is
8 accumulated over millions of years and is not migrating,
9 it's not connected to other water sources, and it's -- so
10 in that sense, the risk to any water supply is addressed
11 fully by the facility.

12 We're also proposing to put a clay liner in these
13 landfill cells, which would provide further protection.

14 And there will also be testimony that the
15 material that's going into the cells is very immobile. It
16 is primarily drilling muds, which have had the liquids
17 removed. And so by their own -- their very nature, they
18 are not -- they don't have substantial mobility.

19 So all of that, we will suggest, indicates that
20 the landfill design that we have proposed, landfill cell
21 design, is appropriate for this location, as part of this
22 landfarm permit.

23 And there will be other issues that come up, but
24 those are primarily the ones we think need to be focused on
25 and we intend to focus on.

1 We have Bill Marley, who is the owner of the
2 ranch and a partner -- part-owner of Gandy Marley, will be
3 our first witness.

4 We have Pat Corser, who's a geotechnical
5 engineer, will be our second witness. He will testify
6 about the design, about the closure, about the geotechnical
7 issues.

8 We have Dr. Bill Mansker, who's geologist. He
9 will confirm and perhaps amplify on some of the geologic --
10 hydrogeologic issues.

11 And we may have Larry Gandy testify.

12 Those will be the four witnesses that we intend
13 to put on.

14 We anticipate probably, to go through this
15 process and make the record clear as far as the initial
16 permit, the initial hydrogeologic work, the renewed permit,
17 the modified permit, what's led up to this hearing, we
18 probably have 15 or 20 exhibits that we're going to have to
19 introduced through the various witnesses.

20 Thank you.

21 MR. FELDEWERT: Mr. Examiner, I'm going to have
22 Mr. Marsh make a -- brief opening remarks, and then I have
23 a very brief follow-up as to what our four witnesses --
24 Okay?

25 MR. MARSH: Do that from here?

1 EXAMINER JONES: Go ahead, Mr. Marsh.

2 MR. MARSH: Mr. Examiner, participants, members
3 of the public, thank you all for your time and attendance
4 here today.

5 I wanted to clarify at the outside -- at the
6 outset here, why CRI is here to oppose the Applications
7 filed by these landfarms.

8 CRI is concerned about the process applied to the
9 Application filed by these landfarms.

10 CRI is further concerned about the lack of
11 oversight that continues to exist in southeast New Mexico
12 over landfarming practices. This is a process and
13 compliance issue, and not an industry issue.

14 For some time now, the Division has allowed
15 landfarms to act as landfills without the proper permits.
16 Everyone agrees that landfarms are designed to accept
17 petroleum-contaminated soils that can be remediated. This
18 is the sole purpose of a landfarm, is remediation.

19 Until Mr. Fesmire became Director, the Division
20 allowed landfarms to accept salt-contaminated drill
21 cuttings and other contaminated waste that cannot be
22 remediated. The material was either mixed in with their
23 landfarm operations or stored on the site.

24 It was only after I kept raising concerns with
25 the Division about this practice that -- and only after Mr.

1 Fesmire became Director, that the Division finally sent
2 letters to stop this practice. From what I've observed,
3 this illegal practice is still continuing.

4 Recently, the Division issued orders granting
5 temporary authority for Artesia Aeration and Gandy Marley
6 to continue to accept wastes that cannot be remediated.
7 These orders were issued under false pretenses.

8 Artesia Aeration represented that it had filed
9 with the Division an administratively complete application
10 that demonstrated the suitability of its site to accept
11 this waste. It turns out it had no C-137 form on file,
12 nothing on file to demonstrate the suitability of the site,
13 and it took a motion by our attorney before the Division to
14 dismiss the case.

15 Gandy Marley represented that it had no
16 protectible groundwater beneath its landfarm and that it
17 had on file a complete application demonstrating its site
18 was suitable for a landfill. Now it turns out groundwater
19 with less than 9000 exists at less than 120 feet. Its
20 Application before the Division is not administratively
21 correct.

22 CRI, Lea Land, Sundance and other properly
23 permitted landfills in southeast New Mexico had to go
24 through a rigorous administrative and public review process
25 before obtaining their permit. If Gandy Marley or any

1 other landfarm wants to accept waste that cannot be
2 remediated, they should have to go through the same
3 process. There should be a level playing field as far as
4 the rules and regulations of this Division go.

5 More importantly, landfills are not like
6 landfarms. The waste that Gandy Marley and other landfarms
7 want to take and bury will not go away or be remediated.

8 This Division has an obligation to the citizens
9 of southeast New Mexico to ensure that before a site is
10 permitted to accept these wastes, that a full and complete
11 application has been filed, that the information being
12 relied upon has been subjected to meaningful public review,
13 and that the Applicant has clearly demonstrated it has a
14 suitable site to accept and bury these wastes.

15 Thank you.

16 MR. FELDEWERT: Mr. Examiner, we're going to
17 present three witnesses here today.

18 Mr. James Bonner is going to testify first about
19 the water quality below this site being less than 10,000
20 parts per million, which is the standard that's utilized to
21 establish whether this groundwater is protectible or not.
22 It's at a shallow formation. And he's going to testify
23 that despite what Mr. Marley said in his application for an
24 emergency order, there is no 100-foot impermeable clay
25 barrier between his proposed site and this protectible

1 groundwater.

2 He's going to therefore testify that we be -- if
3 he's going to be sited out here for a landfill to accept
4 what in essence is hazardous waste, absent the exemption
5 filed by the federal government, that we should have a
6 properly lined, protectible facility.

7 Mr. Turnbough is an expert on permitting -- Mark
8 Turnbough is going to testify. He's an expert on
9 permitting regulatory compliance issues. He's been
10 involved in most of the landfills that are -- exist here in
11 this state. And he's going to testify that this waste
12 disposal site suitability issue does not even get out of
13 the box, because this Application that has been filed by
14 Gandy Marley is administratively incomplete. It lacks the
15 basic elements, the basic data, the basic information that
16 is necessary for any agency to make a determination as to
17 whether this site can accept this type of dangerous waste,
18 particularly in a location where there is no natural
19 barriers.

20 Mr. Keith Gordon, who is an expert on siting
21 design and closure of these types of landfarms, is going to
22 testify that again, this Application does not even meet the
23 basic requirements. They've sat here and told you today
24 that they're not going to do anything about their closure
25 plan and that they want to operate the landfill out there

1 without upping their bond or without having any kind of a
2 closure plan before the Division.

3 He's going to testify again, this Application,
4 with respect to design and closure issues, lacks the basic
5 data that any administrative agency would use to evaluate
6 the adequacy of this facility.

7 So at the end of this day -- or tomorrow;
8 hopefully it's today -- you will determine -- I think
9 you're going to find that misrepresentations were made
10 about this site, which caused the Division to enter into
11 some findings and conclusions that it probably should not
12 have made and which were premature, and that we have an
13 opportunity now, here today, to establish that if you're
14 going to operate a landfill here in New Mexico -- okay? --
15 you're going to go through these rigorous permitting
16 requirements, just like the existing facilities did, and
17 that you can't get by with just a nod and a wink, and that
18 this has to be carefully evaluated because of the nature of
19 the wastes that are going to be accepted -- it cannot be
20 remediated, they're going to be there -- and that this has
21 to be carefully evaluated to protect the citizens of New
22 Mexico.

23 MR. APODACA: Dr. Neeper, if you are intending to
24 present some testimony, we'll take your opening statement
25 now.

1 DR. NEEPER: Yes. Speaking on behalf of a
2 citizens' public interest group, I will first establish the
3 long-term interest of both myself and that group in saline
4 wastes. We are not suddenly picking on Gandy Marley for
5 some reason -- for instance, we have some other issue or
6 other argument with Gandy Marley. Our concern is with
7 saline waste, and we will first establish what that is.

8 I will give testimony to the effect that our
9 concern is more with the upward mobility of salinity than
10 with the downward mobility, that is, with the return of
11 salinity to the surface and the potential difficulty in
12 maintaining vegetation thereafter.

13 Finally, I will present our largest concern,
14 which is with the design of the landfill, namely that it is
15 in effect as presented, burial of waste in an above-ground
16 facility.

17 MR. APODACA: Thank you.

18 If there's nothing further, we will then start
19 the evidence with presentation by Gandy Marley of its
20 witnesses.

21 Call your first --

22 MR. DOMENICI: We'll call --

23 MR. APODACA: -- Mr. Domenici.

24 MR. DOMENICI: -- Bill Marley.

25 (Thereupon, the witness was sworn.)

1 BILL MARLEY,

2 the witness herein, after having been first duly sworn upon
3 his oath, was examined and testified as follows:

4 DIRECT EXAMINATION

5 BY MR. DOMENICI:

6 Q. Will you state your name for the record, please?

7 A. Robert William, also known as Bill, Marley.

8 Q. Where do you live, sir?

9 A. Just south of Roswell.

10 Q. And what is your involvement with the property
11 that is the subject of this Application?

12 A. I'm a partner in Gandy Marley, and then I own the
13 adjacent ground surrounding the land, or the facility.

14 Q. How long has the land surrounding the facility
15 been in the Marley family?

16 A. We purchased that property in 1966.

17 Q. And what use is made of the property?

18 A. It's a cow-calf ranching operation.

19 Q. And describe for the Hearing Examiner the size of
20 the ranch and -- just start with that.

21 A. The ranch is in excess of 40 sections, with a
22 fair amount of it above the caprock and a fair amount down
23 below.

24 Q. And this facility would be below?

25 A. Yes, sir.

1 Q. How do you provide water for your grazing -- or
2 your cow and calf operation down below?

3 A. All the drinking water that cattle drink down
4 below is piped off the top of the cap through poly and PVC
5 pipelines from submersible pumps, out of the Ogallala
6 formation.

7 Q. Do you use any water that is produced from wells
8 located down below?

9 A. No, sir, we have no stock water wells below the
10 cap.

11 Q. And describe briefly how you and your family
12 became involved in considering use of your ranch property
13 for siting of landfarms or landfills.

14 A. We were siting a hazardous waste landfill with
15 the Gandys when we decided to utilize this area for a
16 landfarm facility --

17 Q. And who --

18 A. -- back in the early 1990s.

19 Q. -- who was your contractor involved in siting the
20 hazardous waste facility?

21 A. S.M. Stoller Corporation was the first one.

22 Q. And did you utilize Stoller Corporation to assist
23 in the landfarm application?

24 A. Yes, sir, they did the landfarm application.

25 Q. And do you recognize the name Jim Bonner?

1 A. Yes, sir.

2 Q. What was his involvement in the studies that led
3 up to the landfarm application?

4 A. Jim did all the geology and the hydrology,
5 basically, or for the most part, on both applications, both
6 permits.

7 Q. Okay, I'd mark this as GMI Exhibit Number 1 and
8 hand it to the witness. Would you identify GMI-1?

9 A. This is a permit application from Gandy Marley
10 prepared by Stoller.

11 Q. And do you recognize the signature of the
12 gentleman who signed that?

13 A. Yes, sir, Hart M. Greenwood.

14 Q. What was his involvement with the hydrogeological
15 studies?

16 A. Trey was -- I would guess, was the -- actually
17 the project coordinator, overseeing people who took care of
18 the other aspects of the facility.

19 Q. And that would include Mr. Bonner?

20 A. Yes, sir.

21 Q. And in this application, there's a section, if
22 you'll turn to page 6 --

23 A. Okay.

24 Q. Do you see that? It's Roman numeral XI, Site
25 Characteristics?

1 A. Yes, sir.

2 Q. And is it your understanding and your
3 recollection that the work that was the basis of this
4 section was done by Stoller?

5 A. Yes, sir.

6 Q. And on the second page of that it says -- the
7 first paragraph there, the last sentence, it says "This
8 information was obtained from geologic data from a
9 subsurface drilling program conducted in the region in
10 July, 1994."

11 A. Yes, sir.

12 Q. Was that conducted by Stoller?

13 A. Yes, sir.

14 Q. Was Mr. Bonner involved in that?

15 A. Mr. Bonner was on site during that.

16 Q. And were you aware of what activity -- or
17 generally what activity was taking place.

18 A. Generally, yes, sir.

19 Q. And when you asked Stoller to prepare the
20 landfarm application, did you intend that they would refer
21 and rely on that study that they have conducted?

22 A. Yes, sir.

23 Q. I'm going to hand you what's marked as GMI Number
24 2, which is stamped "Draft", and GMI Number 3, which is
25 entitled "Preliminary Geologic Investigation Report", and

1 ask if you are familiar with those documents.

2 MR. FELDEWERT: Counsel, I just have what's been
3 marked as, I think, Exhibit Number 2. Do you have a third
4 exhibit?

5 MR. APODACA: We have two 2's, Mr. Domenici.

6 MR. FELDEWERT: That's 1, that's the first one
7 you just went through. I'm sorry, this is the first one,
8 okay.

9 MR. DOMENICI: 1 is "Draft" -- the "Draft" is 2,
10 this would be 3

11 MR. FELDEWERT: This would be 3? Okay.

12 MR. DOMENICI: Trade that.

13 EXAMINER JONES: Make sure that the court
14 reporter gets a copy.

15 MR. DOMENICI: Can he use the witness copy?

16 EXAMINER JONES: Sure.

17 MR. DOMENICI: Okay, I'll make sure --

18 MR. APODACA: This is 3?

19 MR. DOMENICI: That would be 3, yes.

20 Q. (By Mr. Domenici) Are you familiar with Exhibits
21 2 and 3?

22 A. Yes, sir.

23 Q. And were those performed by Stoller Corporation
24 at the request of Gandy Marley?

25 A. Yes, sir.

1 Q. And to your knowledge, were those the reports
2 relied upon and referred to in -- on page 7 of Exhibit 1?

3 A. Yes, sir.

4 MR. DOMENICI: I would move admission of Exhibits
5 1, 2 and 3.

6 EXAMINER JONES: Any objections?

7 MR. FELDEWERT: May I ask the witness a couple
8 questions about Exhibits 2 and 3?

9 EXAMINER JONES: Sure.

10 VOIR DIRE EXAMINATION

11 BY MR. FELDEWERT:

12 Q. Was -- I'm looking on Exhibit Number 3.

13 A. Yes, sir.

14 Q. I'm looking at Figure 5.

15 A. What page?

16 Q. On -- well, unfortunately it does not have a
17 page. It would be after page 8.

18 A. Yes, sir.

19 Q. And it shows a map, "Surface Geology - Project
20 Area, Southeast New Mexico, Gandy Project", correct?

21 A. Yes, sir.

22 Q. Is that for the Triassic Park site?

23 A. Yes, sir.

24 Q. Does this report relate to the Triassic Park
25 site?

1 A. It was prepared for the Triassic Park site.

2 Q. Okay. Now that's a site that's over a mile and a
3 half south of the site that's the subject of the hearing
4 today, correct?

5 A. A touch over a mile, yes, sir.

6 Q. Okay, so this is not a study of the area below
7 the site which is the subject of the hearing today, was it?

8 A. The area below the site and the subject of the
9 hearing today was also studied.

10 Q. Under this report?

11 A. I believe so.

12 Q. You believe so, or you don't know?

13 A. I know they drilled it.

14 Q. Can you confirm for us today whether this site --
15 or whether this study was utilized with respect to -- and
16 let me look at Figure 11, if I may, which follows page 18.
17 That's again your Triassic Park site, right?

18 A. I couldn't say for sure which site it is.

19 Q. You can't recognize your Triassic Park site by
20 virtue of the fact that is -- portions of Section 17 and
21 18?

22 A. Pardon me?

23 Q. You can't determine from Figure 11 that this is
24 your Triassic Park site --

25 A. Oh, excuse me, I'm on Figure 6.

1 Q. I'm sorry, Figure 11, which follows page 18.
2 That's your Triassic Park site, right?

3 A. Yes, sir, this map is.

4 Q. Okay, Figure 12, that's your Triassic Park site,
5 is it not?

6 A. Yes, sir.

7 Q. Figure 14, Triassic Park site?

8 A. Yes, sir.

9 Q. Okay, and these reports don't have anything to do
10 with the site that is the subject of the hearing today, do
11 they?

12 A. I have not read this report lately in depth
13 enough to be able to answer that question.

14 MR. FELDEWERT: I object to the introduction of
15 Exhibits 2 and 3 on grounds of relevancy.

16 MR. APODACA: Mr. Domenici, care to respond?

17 MR. DOMENICI: Yes, his testimony was that these
18 were the reports that were relied upon by Stoller to
19 prepare their application. I think the technical questions
20 need to be asked of the technical witness.

21 DIRECT EXAMINATION (Resumed)

22 BY MR. DOMENICI:

23 Q. And I would refer to Figure 10, if you could, ask
24 Mr. Marley to look at that.

25 A. Yes, sir.

1 Q. Does Figure 10 include the landfarm site?

2 A. Yes, sir.

3 Q. Is that around -- roughly around where it shows
4 Number 9, where --

5 A. Yeah, Sections 4, 5, 8 and 9.

6 Q. And it says "Area of Investigation, July, 1993"?

7 A. Yes, sir.

8 MR. DOMENICI: So I would suggest these should be
9 admitted as having been utilized by the Applicant and
10 subject to cross-examination of the technical witnesses as
11 to their value. I think the objection goes to the value of
12 these, not the admissibility.

13 MR. APODACA: Mr. Domenici, they'll be
14 provisionally accepted at this time, but we want you to
15 bring this matter up with your expert witness and verify
16 what you've just told us and renew your request then to be
17 admitted at that time.

18 MR. DOMENICI: Thank you.

19 Q. (By Mr. Domenici) Now, Mr. Marley, looking back
20 at Exhibit 1, I would ask that that -- now Exhibit 1, I
21 wasn't sure?

22 MR. APODACA: That's correct. Mr. Feldewert, do
23 you have any objection to Exhibit 1, which is not the
24 reports?

25 MR. FELDEWERT: That's their '94 application?

1 MR. APODACA: Correct.

2 MR. FELDEWERT: No, I have no objection.

3 MR. APODACA: Exhibit 1 will be admitted, 2 and 3
4 are provisionally admitted at this time.

5 Q. (By Mr. Domenici) Looking at Exhibit 1, what was
6 -- from your standpoint as the operator, what was your
7 understanding as to how the site would be closed, the
8 closure plan back in 1994?

9 A. That all surface structures would be removed,
10 berms and everything would be pushed down, the cells would
11 be mounded with clean soil -- or all -- Well, first all
12 soils would be remediated to OCD standard, and then they
13 would be mounded to prevent pooling, and then re-vegetation
14 would occur.

15 EXAMINER JONES: Mr. Marley, can you make sure
16 those are numbered when you get them?

17 THE WITNESS: Yes, sir, he has been.

18 Q. (By Mr. Domenici) Will you identify Exhibit 4,
19 please?

20 A. This would be the landfarm permit.

21 Q. And was this permit received in response to the
22 application that's Exhibit 1?

23 A. Yes, sir.

24 Q. Looking at Exhibit 1, if you will, there is a
25 Figure Number 3 -- no, actually let's start with Figure

1 Number 2.

2 A. Yes, sir.

3 Q. There's a drawing in the middle of that figure --
4 or of that map?

5 A. Yes, sir.

6 Q. Is that the landfarm?

7 A. Yes, sir.

8 Q. Is that the current dimension and size of the
9 landfarm?

10 A. Yes, sir.

11 Q. Does the Application that we are here for today
12 change that size?

13 A. No, sir.

14 Q. So you're not requesting any change to the size
15 that's shown on Figure Number 2?

16 A. No, sir.

17 Q. Turn --

18 MR. FELDEWERT: Excuse me, Counsel, I'm looking
19 at Exhibit 4, right?

20 MR. DOMENICI: Yes.

21 MR. FELDEWERT: What page are you on --

22 MR. DOMENICI: Exhibit 1.

23 THE WITNESS: No, Exhibit 1.

24 MR. FELDEWERT: I'm sorry.

25 MR. DOMENICI: It's Figure 2 in Exhibit 1.

1 MR. FELDEWERT: Got you. Thank you.

2 Q. (By Mr. Domenici) If you'll turn to Figure 3,
3 describe what that is, please, sir.

4 A. "Site diagram".

5 Q. That shows a perimeter fence, a buffer zone, a
6 three-foot-high berm, access; is that correct?

7 A. Yes, sir.

8 Q. Are you proposing any changes to that site
9 diagram?

10 A. No, sir.

11 Q. As part of the modification that we're here on
12 today?

13 A. As far as the outside fence or the berms, no,
14 sir.

15 Q. And then looking at Exhibit 4, which is -- I
16 think you described it as the permit -- at the end of that,
17 the last paragraph, is "Closure".

18 A. Oh, Exhibit 4?

19 Q. It's on the fourth page of Exhibit 4.

20 A. Yes, sir.

21 Q. Are you proposing any changes to the closure
22 requirements?

23 A. No, sir.

24 Q. Looking at Exhibit 1, which is the application
25 that we're here today on --

1 A. Yes, sir.

2 Q. I'm sorry, I don't have the application --

3 A. Are we on Exhibit 1 or 4?

4 MR. DOMENICI: No, it's going to be a new
5 exhibit. Hold on a second.

6 First let me move admission of Exhibit 4.

7 EXAMINER JONES: Any objections?

8 MR. FELDEWERT: No objection.

9 Q. (By Mr. Domenici) Can you identify what Exhibit
10 5 is, Mr. Marley?

11 A. Yes, sir, it's an Application for a modification
12 to our permit.

13 Q. Will you turn to the document entitled "GMI Cell
14 Design"?

15 A. Yes, sir.

16 Q. Who prepared that?

17 A. I did.

18 Q. And are you a licensed contractor?

19 A. I have been, yes, sir.

20 Q. What type of contractor?

21 A. I had a general soil construction, pipeline, and
22 utilities.

23 Q. And do you do earthwork?

24 A. Some now, not much.

25 Q. Is it your understanding that this diagram would

1 be sufficient to construct this cell?

2 A. Yes.

3 MR. FELDEWERT: I'm going to object on the
4 grounds of a lack of background and qualifications to make
5 that determination.

6 MR. DOMENICI: I'll lay a foundation, if that's
7 okay.

8 MR. APODACA: Please do.

9 Q. (By Mr. Domenici) Would you -- When you were a
10 contractor, did you perform work based on designs like
11 this?

12 A. Yes, sir.

13 Q. How common was that, as part as the work you did
14 as a contractor?

15 A. It was fairly common.

16 Q. And did you see designs like this? Did you
17 receive them for either bid or for construction?

18 A. Yes, sir.

19 Q. And based on that experience that you had while
20 you were a licensed contractor, would you be able to bid
21 and construct a project based on this diagram?

22 A. Yes, sir.

23 MR. DOMENICI: Okay.

24 MR. FELDEWERT: Objection still holds. If I
25 could ask two questions.

1 MR. APODACA: Why don't you proceed?

2 MR. FELDEWERT: Okay.

3 VOIR DIRE EXAMINATION

4 BY MR. FELDEWERT:

5 Q. Mr. Marley, did -- Mr. Marley, have you ever been
6 involved in the design of waste disposal cells for a
7 landfill?

8 A. I did the construction of the landfill.

9 Q. Have you ever been involved in the design?

10 A. No, sir.

11 Q. Okay. And have you ever been involved in the
12 construction of a landfill that was authorized to accept
13 oil and gas field wastes?

14 A. A landfarm that was authorized.

15 Q. Okay, I'm talking about a landfill that is
16 authorized to accept oil and gas wastes that cannot be
17 remediated.

18 A. Not for oil and gas, but for solid wastes, yes.

19 Q. Solid waste. Which facility?

20 A. Trisect Safe Waste Landfill in Los Lunas.

21 Q. And is that a municipal solid waste facility?

22 A. Yes, sir.

23 Q. Okay, and does that have -- is that -- Okay, so
24 that's a municipal solid waste facility --

25 A. Yes, sir.

1 Q. -- disposal facility? You were involved in the
2 construction of that?

3 A. Yes, sir.

4 Q. And in what sense were you involved in the
5 construction of that facility?

6 A. I managed the company that did the earth work for
7 the cell and the road.

8 Q. Okay, and did you -- as part of that process,
9 were you -- you looked at designs?

10 A. I looked at blueprints.

11 Q. Blueprints. And those were put together by
12 others?

13 A. Yes, sir.

14 Q. Okay, were the blueprints more extensive than
15 this?

16 A. The construction, the initial conceptual -- No,
17 sir.

18 Q. Well, when you got down to the actual
19 construction and you had to go out and actually do the
20 work, you had more detailed designs than what is shown
21 here, did you not?

22 A. On some of it.

23 MR. FELDEWERT: Okay, that's all I have.

24 I would renew my objection on the grounds that I
25 don't think he's qualified.

1 MR. APODACA: Mr. Domenici, will you have other
2 witnesses testifying with respect to this design?

3 MR. DOMENICI: Yes, I'll have a design engineer.
4 But I wanted to have a contractor testify that you could
5 construct off of this design, which I think he's qualified
6 to testify.

7 MR. APODACA: So Mr. Feldewert, he's only going
8 to testify with respect to whether this is sufficient to do
9 construction, not with respect to technical issues. Do you
10 still have an objection?

11 MR. FELDEWERT: Yes, I would note for the record
12 that my concern is, he said that he -- when it got down to
13 construction he actually had more detailed blueprints than
14 this design, so on that basis I'm not sure that he's
15 qualified to -- Well, I think that goes to the weight, so
16 I'll dismiss -- I don't have any objection.

17 MR. APODACA: Good, we were going to overrule it
18 anyhow.

19 MR. FELDEWERT: I think properly so.

20 MR. APODACA: Please proceed, Mr. Domenici.

21 MR. DOMENICI: Yes.

22 DIRECT EXAMINATION (Resumed)

23 BY MR. DOMENICI:

24 Q. Mr. Marley, describe what GMI did after they were
25 notified in spring of this year that the OCD was modifying

1 the GMI landfarm permit to prohibit the receipt of salt-
2 contaminated waste.

3 A. We requested an emergency order to allow us to
4 continue to accept the waste that we had been told we could
5 accept.

6 Q. And did you file an application for modification?

7 A. Yes, sir.

8 Q. Did you receive a letter from OCD -- actually,
9 let me show you.

10 MR. DOMENICI: That's Exhibit 6.

11 MS. HOLLINGSWORTH: 5?

12 MR. DOMENICI: Yes, I move Exhibit 5.

13 MR. FELDEWERT: That's the Application on file
14 with the Division?

15 MR. DOMENICI: Yes.

16 MR. FELDEWERT: I have no objection.

17 EXAMINER JONES: Exhibit 5.

18 Q. (By Mr. Domenici) Will you identify Exhibit 6?

19 A. It's a letter from the New Mexico Energy,
20 Minerals and Natural Resources Department from Ed Martin.

21 Q. And is that -- was that a letter that requested
22 additional information that you've provided in the form of
23 Exhibit 5?

24 A. Yes, sir.

25 Q. Since providing Exhibit 5, have you received any

1 communications from OCD similar to the March 29th letter,
2 indicating that any additional information is required as
3 part of the Application?

4 A. No, sir.

5 Q. In looking at Exhibit 6, the March 29th letter,
6 it asks you to provide the following, asks Gandy Marley to
7 provide the following: NMOCD Form C-137.

8 A. Yes, sir.

9 Q. Did Gandy Marley provide that as part of Exhibit
10 5?

11 A. Yes, sir.

12 Q. It asks for information as to the thickness of
13 the clay liner depicted in the drawing of a typical land
14 cell included with your application. Did Gandy Marley
15 provide that as part of Exhibit 5?

16 A. Yes, sir.

17 Q. It asks for information as to the standards to
18 which the clay layer will be constructed. Did Gandy Marley
19 provide that as part of Exhibit 5?

20 A. Yes, sir.

21 Q. It asks -- it states, Please address the issue of
22 whether this modification will change your original closure
23 cost estimate included with your original landfarm
24 application. Did Gandy Marley address that?

25 A. Yes, sir.

1 Q. And it asks for proof of notification to the
2 Chaves County Commissioners as follows. Did Gandy Marley
3 do that?

4 A. Yes, sir.

5 MR. DOMENICI: I'll move admission of Exhibit 6.

6 EXAMINER JONES: Objection?

7 MR. FELDEWERT: I have no objection.

8 EXAMINER JONES: Exhibit 6.

9 Q. After you began this process to obtain the
10 modification in, say, March and April of this year, did you
11 make a decision to drill monitor wells?

12 A. Yes, sir.

13 Q. And why did you decide to do that?

14 A. The decision was based to basically strengthen,
15 to reassure the OCD that -- what we had.

16 Q. Was it your intent to confirm the hydrogeologic
17 information you had at the site --

18 A. Yes, sir.

19 Q. -- about the site?

20 And describe how you -- or your involvement in
21 having those wells drilled.

22 A. I called Ed Martin and proposed or asked --
23 mentioned -- or visited with him about them, proposed site,
24 location of them, took care of getting a drilling rig and
25 making sure that our geologist was on site at the time and

1 called a third-party contractor to take water samples and
2 do the water studies.

3 Q. Did you participate in the decision of where the
4 wells would be drilled?

5 A. Yes, sir.

6 Q. And where did you locate those wells?

7 A. Located the first one on the south side of Cell
8 15. The second one is just outside the outside berm,
9 between Cell 18 and 20, just south of the outer berm.

10 MR. DOMENICI: I'm going to mark this as Exhibit
11 7, and I don't have a sticker, but I'll get a sticker when
12 I --

13 (Off the record)

14 Q. (By Mr. Domenici) Let me ask you to describe
15 Exhibit 7, and I have copies of that if anybody would like
16 to have them.

17 A. Exhibit 7 is a map of the area and the -- shows
18 the facility.

19 (Off the record)

20 Q. (By Mr. Domenici) Okay, so -- and are those two
21 wells identified on there?

22 A. Yes, sir.

23 Q. They're the ones with the X? It says MW 1 and
24 has an X next to it?

25 A. Yes, sir.

1 Q. Down -- What are the notations where it says
2 "pb"? It looks like it's along the road. pb-27, pb-26,
3 pb-1. Do you see those?

4 A. Yes, sir.

5 Q. What does that signify?

6 A. Those are borings that were drilled in 1993 for
7 the 1994 study done by Jim Bonner.

8 Q. And were those completed as monitor wells?

9 A. No, sir.

10 Q. What were -- If you know, what were they used
11 for?

12 A. Just to verify geology.

13 Q. And so you wanted to have actual completed wells
14 at the location you were proposing for the landfill cells;
15 is that correct?

16 A. Yes, sir.

17 Q. And have you received results from that drilling?

18 A. Yes, sir.

19 Q. Have those results indicated the volume of
20 water --

21 A. Yes, sir.

22 Q. -- that could be obtained from those two wells?

23 A. Yes, sir.

24 Q. Is that volume sufficient for you to use in any
25 ranching or cattle raising operations?

1 A. No, sir.

2 Q. And why is that?

3 A. It would take between 20 and 30 wells of that
4 size to sustain. There's not enough volume to even run a
5 windmill.

6 Q. And so do you intend to continue to use the well
7 -- the water from on top of the caprock?

8 A. Yes, sir.

9 Q. Are there any other anticipated uses of the
10 property on top of those wells, other than for either
11 grazing or landfill/landfarm operations?

12 A. No, sir. The water quality is very
13 unsatisfactory for livestock.

14 Q. And explain that, please.

15 A. Sulfates are extremely high. I can't remember
16 exactly the range. If you could let me look at the
17 analysis. Sulfates over 500 parts per million are not
18 suitable for livestock. TDS's over 7000 parts per million
19 are not suitable for pregnant or lactating cows, which if a
20 cow is not pregnant she's lactating. If she's not one or
21 the other, she's not on my ranch.

22 Q. I'm handing you Exhibit 8. Are those the --
23 those are the results you were referring to?

24 A. Yes, sir.

25 Q. Okay, I want you to go through again what you

1 just testified, looking at those results.

2 A. Okay, these wells came up in sulfates on -- page
3 numbers -- fourth page -- no, that's not sulfates, that's
4 sodium. Where -- Give me a minute.

5 Okay, on the seventh page back, total dissolved
6 solids, 8930 --

7 MR. APODACA: I'm sorry, which page are you on,
8 sir?

9 THE WITNESS: The seventh page from the front.

10 MS. HOLLINGSWORTH: The page numbers are on it.

11 THE WITNESS: I can't read it on this copy. Oh,
12 page number 7 of 10, excuse me.

13 Q. (By Mr. Domenici) And it's down about 10 items
14 or so?

15 A. Yes, sir, it's highlighted -- or bolder print.
16 Total dissolved solids, 8930. Anything over 7000 parts per
17 million TDS is considered unsuitable for livestock.
18 Sulfates over 500, which in this one it's 1760; it's
19 unsuitable for livestock.

20 Q. Let me stop you for a second. You're stating
21 that -- I'm marking -- I hand you what I've marked as
22 Exhibit 9. Is that your reference for stating that certain
23 levels are unsuitable for livestock?

24 A. Yes, sir, it's one of my references.

25 Q. And that would be which page of that exhibit, if

1 you could?

2 A. Actually, this one shows sulfate at 100 and 300,
3 so 400. It's behind the "Beef Briefs".

4 Q. Is it the section called "Salinity"?

5 A. Where are you at? This section? Yes, sir, that
6 section. And then --

7 Q. Okay, let's go through them one at a time. So --

8 A. Okay.

9 Q. -- on the TDS section, the category that concerns
10 you is which one?

11 A. The -- anything over 7000 "should be avoided if
12 possible. Pregnant, lactating, stressed or young animals
13 can be affected. Very saline."

14 Q. Okay, and repeat again for the record how your
15 cattle operations generate or produce pregnant or lactating
16 cows.

17 A. We start calving the first of February, so
18 they're pregnant for the nine months proceeding that. As
19 soon as they are not pregnant, they've lactating, they've
20 got a calf on their side. Late April, bulls are placed
21 with the cows for re-breeding. So before the calves are --
22 while the calves are still lactating, the cows are re-
23 breeding.

24 Q. So all of your cows, or virtually all of them,
25 are always in this category of pregnant or lactating?

1 A. Yes, sir, if -- in the fall, if she did not raise
2 a calf and is not pregnant, she goes to the sale barn.

3 Q. Okay, on the next pages they have other items, if
4 you look at Exhibit 9. What other constituents concern you
5 about with respect to utilizing this water for your cattle
6 operations?

7 A. At the bottom of the page, the "Water Quality
8 Guidelines", over to the next page, it shows sulfates at --
9 you add the two together to 400 parts per million.

10 Q. And what does the well -- What do the wells' data
11 show?

12 A. The well data showed 1760 on one, 2180 on the
13 other. Calcium shows to be 150 on this table, the upper
14 range. We have calcium at 172 on one well and 168 on the
15 other.

16 Q. Are these the type of tables that you rely on in
17 your cattle operation, the type of documents?

18 A. Yes, sir.

19 MR. DOMENICI: I'll move admission of Exhibit 9.

20 EXAMINER JONES: Any objection?

21 MR. FELDEWERT: No objection.

22 MR. DOMENICI: And I'll move admission of Exhibit
23 8.

24 MR. FELDEWERT: No objection.

25 EXAMINER JONES: Exhibits 8 and 9 --

1 MR. FELDEWERT: Well, let me back up, other than
2 the fact that -- other than our motion which is pending
3 before the Division, so I assume that my objection today
4 will not jeopardize that motion.

5 MR. APODACA: They will be admitted subject to
6 our -- on that motion.

7 MR. FELDEWERT: Thank you.

8 Q. (By Mr. Domenici) Now, Mr. Marley, prior to
9 drilling these two recently drilled wells, did you
10 anticipate or have any understanding as to what the quality
11 of water might be if you found it on your property?

12 A. I knew it would be unfit for livestock or human
13 consumption and of unsubstantial vol- -- quantity to use.

14 Q. And since 19- -- I think you said your family's
15 had the ranch since 1968; is that --

16 A. 1966.

17 Q. 1966. And during that entire time, your family
18 has not chosen to develop water on the lower part of the
19 ranch?

20 A. No, sir.

21 Q. Is that because of concerns over quantity and
22 volume?

23 A. And quality, and volume. Quantity and quality.

24 Q. And how long have you personally managed the
25 ranch?

1 A. I first started managing that ranch in 19 and --
2 '80, '81.

3 Q. And have you spent a lot of effort and resources
4 bringing water from the top of the caprock down below?

5 A. Yes, sir, we laid a large amount of pipeline,
6 replaced a large amount of pipeline.

7 Q. And if you thought there was water available,
8 usable water available down below, would that have been a
9 better option for you?

10 A. Yes, sir.

11 Q. And you chose not to pursue it?

12 A. No, sir.

13 Q. And do these results confirm what you had known
14 all along about your -- lower part of your ranch?

15 A. Yes, sir.

16 Q. Now, are you familiar with the modification that
17 Gandy Marley received to their landfarm permit in 1997 for
18 a solidification unit?

19 A. Yes, sir.

20 (Off the record)

21 MR. DOMENICI: Before I move on, I'd like to move
22 admission of Exhibit 7, which is the map.

23 EXAMINER JONES: Any objection?

24 MR. FELDEWERT: No objection.

25 EXAMINER JONES: Exhibit 7 is admitted.

1 Q. (By Mr. Domenici) Looking at -- I've handed you
2 two documents. Which one is Exhibit 10?

3 A. "Application for Waste Management Facility, Form
4 C-137".

5 Q. And then Exhibit 11 is the approval; is that
6 correct?

7 A. Yes, sir.

8 Q. What was the general nature of this Application?

9 A. To take and process tankbottoms where they would
10 be land-farmable.

11 Q. Can you show us where that takes place on Exhibit
12 7 on the map?

13 A. Yes, sir.

14 Q. Would you hold that up and just point to it for
15 the Hearing Examiner?

16 A. Here where it says "Stabilization and Tank".

17 Q. And was that modification requested -- approved?

18 A. Yes, sir.

19 Q. And has the landfarm been operating pursuant to
20 that --

21 A. Yes, sir.

22 Q. -- modification?

23 Is Gandy Marley proposing any changes to that
24 operation --

25 A. No, sir.

1 Q. -- as part of this modification?

2 A. No, sir, not to this.

3 (Off the record)

4 EXAMINER JONES: Mr. Domenici, how long do you
5 think this witness will go? We're going to try to take a
6 break at 10:00.

7 MR. DOMENICI: If we could just take a break at
8 10:00, I'm not sure --

9 EXAMINER JONES: Okay, that's fine.

10 MR. DOMENICI: -- we probably won't be finished
11 then, but we're getting close.

12 EXAMINER JONES: Thank you.

13 (Laughter)

14 Q. (By Mr. Domenici) Let me hand you -- What are we
15 up to?

16 A. 11.

17 Q. Let me hand you Exhibit 12, which is an
18 application dated December 16th, 1997, and Exhibit 13,
19 which is a letter dated October 12th [sic], 1999, and ask
20 if you can identify those as the application for renewal
21 and the renewal permit for the landfarm.

22 A. Yes, sir.

23 Q. And looking at Exhibit 12, which is the
24 application, the Figure 2 attached to that --

25 A. Yes, sir.

1 Q. -- that's the footprint of the landfarm?

2 A. Yes, sir.

3 Q. And that hasn't changed since the original
4 application through this renewal, correct?

5 A. No, sir.

6 Q. Figure 3 --

7 A. Yes, sir.

8 Q. -- what is that?

9 A. It shows the cells inside the landfarm.

10 Q. And the perimeter fence, the buffer zone, the
11 berm?

12 A. Yes, sir.

13 Q. And the last page, it says "Attachment A". Do
14 you see that?

15 A. Yes, sir.

16 Q. Is it your understanding that that was a quote to
17 close the landfarm -- a landfarm, excuse me?

18 A. Yes, sir.

19 Q. And are you familiar with an estimate done by the
20 OCD for closure?

21 A. Yes, sir.

22 Q. And was that estimate higher than the estimate on
23 Attachment A?

24 A. Yes, sir.

25 Q. And did Gandy Marley end up agreeing to the OCD

1 closure estimate?

2 A. Yes, sir.

3 Q. And financial assurance in that amount has been
4 placed --

5 A. Yes, sir.

6 Q. -- and been maintained?

7 And then on the cover letter, on Exhibit 13, it
8 says the "...permit approval is conditional upon...receipt
9 and approval...of financial assurance in the amount of
10 \$82,917"?

11 A. Yes, sir.

12 Q. And Gandy Marley complied with that?

13 A. Yes, sir.

14 Q. Let me show you Exhibit 14. Is that the OCD
15 estimate?

16 A. Yes, sir.

17 Q. And is Gandy Marley making any request to modify
18 that closure estimate?

19 A. No, sir.

20 MR. DOMENICI: I'll move admission of Exhibits
21 12, 13 and 14.

22 MR. FELDEWERT: No objection.

23 EXAMINER JONES: Exhibits 12, 13 and 14 will be
24 admitted.

25 MR. DOMENICI: If we could take a break now, I

1 might be able to organize and get him done a little
2 quicker.

3 EXAMINER JONES: Okay, let's come back at five
4 after 10:00.

5 (Thereupon, a recess was taken at 9:52 a.m.)

6 (The following proceedings had at 10:06 a.m.)

7 EXAMINER JONES: Okay, let's go back on the
8 record.

9 Mr. Domenici?

10 Q. (By Mr. Domenici) Mr. Marley, I'm going to go
11 back to these two recently drilled wells. Did you receive
12 a report from Clayton Barnhill that discussed -- that
13 contained other analysis on the wells?

14 A. Yes, sir.

15 Q. Who is Mr. Barnhill?

16 A. He's a third-party contractor that does this kind
17 of work.

18 Q. Let me hand you Exhibit 15. Is that his report?

19 A. Yes, sir.

20 Q. Did he gather data regarding the volume that the
21 well -- either of these wells would produce?

22 A. Yes, sir.

23 Q. Did that -- did the information he obtained
24 confirm what you expected as far as the production --

25 A. Yes, sir.

1 Q. -- potential production?

2 A. Yes, sir.

3 Q. And what was the production? In layman's terms,
4 if you could describe it. We'll ask our technical people
5 to talk about it also.

6 A. The -- on Monitor Well-1, the recharge rate
7 started at about 230 gallons a day and was down to, I
8 believe, something a little over 70 within just a matter of
9 an hour and a half, two hours.

10 Monitor Well-2, I believe, was just a little bit
11 above that.

12 Q. And did that confirm your position as the rancher
13 that there was no beneficial water supply available?

14 A. No, sir -- yes, sir --

15 Q. It did confirm that?

16 A. -- it did confirm that. There's not a beneficial
17 water supply.

18 MR. DOMENICI: And I'll move Exhibit 15 for
19 admission.

20 MR. FELDEWERT: No objection.

21 MR. DOMENICI: And I think I left out a couple of
22 exhibits for admission.

23 MR. APODACA: 10 and 11, I believe.

24 MR. DOMENICI: 10 and 11, that's the -- one is
25 the solidification application, the other is the renewal.

1 I'll move those for admission.

2 MR. FELDEWERT: No objection.

3 EXAMINER JONES: Exhibits 10 and 11 and 15.

4 Q. (By Mr. Domenici) Let me hand you Exhibit 16.

5 Is that the notification that Gandy Marley sent out?

6 A. Yes, sir.

7 MR. DOMENICI: I'll move admission of Exhibit 16.

8 MR. FELDEWERT: No objection.

9 EXAMINER JONES: Exhibit 16 will be admitted.

10 Q. (By Mr. Domenici) Do you have another document
11 that you looked at for -- to determine if the quality of
12 this water would be nonusable for your cattle?

13 A. Yes, sir.

14 Q. Describe what that is.

15 A. It's a document I pulled off of the Web, or the
16 Internet, that comes from -- I believe it's EPA guidelines
17 or -- I can't --

18 Q. And did you use that and the one that we have as
19 an exhibit to determine whether this water would be
20 beneficial to your cattle?

21 A. Yes, sir.

22 MR. DOMENICI: Mr. Hearing Examiner, I'm making
23 copies of this other document that he's referring to, and
24 I'd like to move on to my next witness. It should be here
25 in a minute. I could either recall him or tender it to

1 counsel. If he needs to voir dire the witness, we can put
2 him back on, if that would be okay.

3 EXAMINER JONES: What will the exhibit show?

4 MR. DOMENICI: It's another document showing
5 standards -- water quality standards for livestock.

6 EXAMINER JONES: EPA water standards --

7 MR. DOMENICI: Yes.

8 EXAMINER JONES: -- for livestock?

9 MR. DOMENICI: It's an EPA guidance showing
10 what -- yes. It will speak for itself when it comes up. I
11 just don't want to -- I'm just prepared to move on. We can
12 wait for it too. It's being copied right now. But that's
13 the only thing I have left with this witness.

14 MR. APODACA: And that's the only other thing
15 this witness would testify to?

16 MR. DOMENICI: Yes.

17 MR. APODACA: That would be fine.

18 MR. DOMENICI: Or you could start cross, and we
19 can do it after that or -- We can wait a minute. It'll be
20 here in just a couple minutes.

21 MR. FELDEWERT: That's -- I don't need it for
22 cross.

23 MR. DOMENICI: If you want to start cro- -- I'm
24 just notifying you, I want to -- that's the only thing I
25 want to ask --

1 MR. APODACA: You're passing the witness?

2 MR. DOMENICI: Yes, subject to that one document.

3 MR. APODACA: Okay, all right.

4 CROSS-EXAMINATION

5 BY MR. FELDEWERT:

6 Q. Mr. Marley, could I have you look at Exhibit 15,
7 please? And go to page 3.

8 A. Down there in the second full paragraph -- or
9 full bullet point, the last sentence, it says the M-1 well
10 "may produce an estimated sustained rate on...average of
11 154 gallons per day." That's one of the wells that you
12 recently drilled at your facility, correct?

13 A. Yes, sir.

14 Q. Okay, and then --

15 MR. APODACA: Excuse me, Mr. Feldewert, where are
16 you on Exhibit 15?

17 MR. FELDEWERT: I'm sorry, Exhibit 15, page 3 --

18 MR. APODACA: I'm sorry --

19 MR. FELDEWERT: -- second bullet point --

20 MR. APODACA: -- sorry to interrupt --

21 MR. FELDEWERT: That's fine.

22 MR. APODACA: Please continue.

23 Q. (By Mr. Feldewert) And then it says MW-2 --
24 that's the second test well you drilled, correct?

25 A. Yes, sir.

1 Q. -- "...could possibly produce an estimated
2 sustained rate [of] 206 gallons per day." Right?

3 A. Yes, sir.

4 Q. All right. Now, I would like to know from you,
5 Mr. Marley, what you believe you are presently permitted by
6 the Division to accept under all of these series of
7 applications and letters that we just went through.

8 A. Hydrocarbon-contaminated soils, tankbottoms, and
9 sludges and stuff that can go through that treatment
10 trough.

11 Q. Sludges?

12 A. Exempt, non-exempt oilfield waste.

13 Q. Any kind of oilfield waste?

14 A. Not every kind.

15 Q. Okay. And your Application that someone filed
16 with the Division --

17 A. Yes, sir.

18 Q. -- which you've marked as Exhibit Number 5, the
19 second page --

20 A. Yes, sir.

21 Q. -- it says under "Modification Request" --

22 A. Yes, sir.

23 Q. All right. What do you understand -- what do you
24 intend to be adding to what you believe you are presently
25 permitted to accept?

1 A. Drilling mud, chloride-impacted debris and
2 chloride-impacted -- chloride-impacted materials.

3 Q. Anything else?

4 A. Not really.

5 Q. Okay, so you're adding drilling muds and salt-
6 contaminated waste. That's the intent of your Application
7 that you're filing with the Division today --

8 A. Yes, sir.

9 Q. -- that's the subject of the hearing today?

10 A. Yes, sir.

11 Q. Okay. Now, with respect to the -- your statement
12 that you believe you're allowed to presently take
13 hydrocarbon-contaminated soils, tankbottoms and sludges, is
14 that by virtue of your 1994 application and permit?

15 I'll tell you what, let me be more specific.

16 A. Thank you.

17 Q. Under what permit do you think you're authorized
18 to accept tankbottoms and sludges?

19 A. With the 1997 -- 1996.

20 Q. Can you refer me to an exhibit number? I
21 apologize, I didn't have a chance to go through all
22 these --

23 A. 10 and 11.

24 Q. 10 and 11, okay. Let me go to 10 and 11. Okay,
25 Exhibit Number 10 is your 1996 application?

1 A. Yes, sir.

2 Q. Okay, that led to the approval that's granted on
3 June 14th, 1996, under Exhibit 11?

4 A. I believe so.

5 Q. Okay. And that's the permits that you understand
6 give you authority to presently accept tankbottoms and
7 sludges?

8 A. I believe so.

9 Q. All right. Would you look at Exhibit Number 10
10 for me, please?

11 A. Yes, sir.

12 Q. And you're referring to the expansion requests at
13 the bottom of that page and on page 1, paragraph -- on the
14 bottom of page -- second page of this application, page 1
15 of your submission --

16 A. Uh-huh.

17 Q. -- paragraph IV, "Expansion Request", right?

18 A. Yes, sir.

19 Q. A solidification facility?

20 A. Yes, sir.

21 Q. All right. And then as part of this application
22 you attached your notice, correct?

23 A. Which application, sir?

24 Q. This Exhibit Number 10.

25 A. Okay.

1 Q. Do you have an Attachment B, "Proof of Public
2 Notice"? It's at the end of your exhibit.

3 A. Yes, sir.

4 Q. It says there in the legal notice that "Pursuant
5 to Rule 711..." -- and I'll skip down, fourth line it says,
6 "...Gandy Marley...will be filing an application for
7 surface waste storage and remediation facility." Right?

8 A. Yes --

9 Q. And if I --

10 A. -- sir.

11 Q. -- skip down to the last line, last sentence of
12 that --

13 A. Yes, sir.

14 Q. -- notice --

15 A. Yes, sir.

16 Q. -- it says, "The purpose of the proposed facility
17 is to provide a safe place for remediation of contaminated
18 soils from oil and gas operations. No produced water or
19 tank bottoms will be allowed." Right?

20 A. Yes, sir.

21 Q. Okay. So you're modifying your permit to create
22 a concrete holding trough to accept tankbottoms and sludges
23 by virtue of Exhibits 10 and 11, correct?

24 A. Yes, sir.

25 Q. Okay, and then if we go -- and prior to that,

1 under the 1994 permit you had authorization to accept
2 hydrocarbon-contaminated soils that could be remediated by
3 landfarm?

4 A. I'm not sure of the exact verbiage, more or
5 less --

6 Q. Is that your understanding?

7 A. More or less, yes, sir.

8 Q. Okay. All right, then if we go to Exhibit 11,
9 which is the June 4th, 1996 -- June 14th, 1996, approval --

10 A. Yes, sir.

11 Q. -- it refers in the first paragraph to the fact
12 that you're going to construct a concrete holding and
13 treating trough, and that's what you indicated on your map,
14 right?

15 A. Yes.

16 Q. Okay, and then it says in paragraph 2 that not
17 only are you going to construct a concrete holding trough,
18 but it's going to be above grade, right?

19 A. Yes, sir.

20 Q. And you're going to set a liner for visual leak
21 detection purposes?

22 A. Yes, sir.

23 Q. So do you have a trough and a liner?

24 A. Yes, sir.

25 Q. Okay. Now, with respect to your Application now

1 to accept drilling muds and salt-contaminated waste, in
2 addition to these tankbottoms and sludges -- and if I'm
3 looking at your Application, it also says filters
4 associated with drilling, operating and maintenance of oil
5 and gas wells.

6 Are you proposing to put all of that waste into
7 that concrete bunker that is lined with a liner?

8 A. In the new Application?

9 Q. And what you're trying to get authority to do
10 here today, you're asking the Division to give you
11 authority to accept drilling muds and salt-contaminated
12 waste, right?

13 A. Right.

14 Q. And according to this Application you're also
15 asking for approval to accept petroleum and chloride-
16 impacted debris --

17 A. Right.

18 Q. -- mud, soils, sludges, tankbottoms and filters
19 associated with the drilling and operating and maintenance
20 of oil and gas wells?

21 A. Yes, sir.

22 Q. Okay. You're not proposing to put that to
23 construct a larger concrete bunker with a liner --

24 A. No, sir.

25 Q. -- are you? All right.

1 You're proposing to instead construct various
2 cells --

3 A. Yes, sir.

4 Q. -- which would have I think what you called a
5 clay liner --

6 A. Yes, sir.

7 Q. -- of some sort? And that's the modification
8 you're seeking here today?

9 A. Yes, sir.

10 Q. Going from a concrete bunker with a lined -- with
11 a liner, to a large-scale landfill to accept all types of
12 oil and gas waste?

13 A. The concrete bunker is a treatment facility.

14 Q. Okay, but you're asking to expand that treatment
15 to include -- on a much larger scale, to include earthen
16 cells, it's going to operate as landfills?

17 A. Yes, sir.

18 Q. All right. Now in Exhibit Number 4 --

19 A. Yes, sir.

20 Q. -- what you've marked as Exhibit Number 4 --

21 A. Yes, sir.

22 Q. -- that's the approval from the Division that was
23 granted in 1995 --

24 A. Yes, sir.

25 Q. -- to operate a commercial landfill --

1 A. Yes, sir.

2 Q. -- right?

3 And in paragraph 4 --

4 A. Yes, sir.

5 Q. -- the first page of the conditions for
6 approval --

7 A. Yes, sir.

8 Q. -- it says, "All contaminated soils received at
9 the facility will be spread and disked within 72 hours of
10 receipt." Right?

11 A. Where are we at?

12 Q. Second page of that approval.

13 A. Yes, sir.

14 Q. If you go to the next page, you have a number of
15 requirements for treatment zone monitoring --

16 A. Yes, sir.

17 Q. -- isn't that right?

18 A. Yes, sir.

19 Q. And that includes conducting tests of the
20 treatment zone as part of your disking operations, if I'm
21 understanding that correctly.

22 A. Yes, sir.

23 Q. And then you are to take soil samples below your
24 remediation operations on occasion and have those analyzed,
25 correct?

1 A. Yes, sir.

2 Q. And anytime you take a soil sample, the Division
3 is presently authorized -- or requiring you to fill those
4 soil samples with impermeable material --

5 A. Yes, sir.

6 Q. -- such as cement, right?

7 A. Yes, sir.

8 Q. Okay. Have you been meeting all of your
9 reporting requirements with the Oil Conservation Division
10 since this approval was granted in 1995?

11 A. Probably not.

12 Q. That's what I concluded.

13 Now, did you take part in filing the Application
14 with the Division for an emergency order?

15 A. Yes, sir.

16 Q. Would you look at -- There's a green notebook I
17 put in front of you.

18 A. Yes, sir.

19 Q. Will you turn to what's been marked as Exhibit
20 Number 1? It's under Tab 1.

21 And let me say for the record, that the exhibits
22 within this notebook are all intended to be marked as CRI
23 Exhibits 1 through 22, and the copy I've provided for the
24 record has been marked as CRI Exhibits 1 through 22, but on
25 some of these notebook copies they are not actually marked,

1 they follow the tab.

2 All right, so you were involved in -- were you
3 involved in the representations made to the Division as
4 part of this application for an emergency order?

5 A. I was there when it was written up, yes.

6 Q. Okay, and this was in March of this year, right?

7 A. Yes, sir.

8 Q. And did you read this emergency order application
9 before it was sent?

10 A. Probably so.

11 Q. And did you expect the Division to rely on these
12 statements?

13 A. I expected them to probably rely more on what
14 they're -- what they know from being out there.

15 Q. Did you understand that the Division was
16 expecting you to answer these questions to the best of your
17 ability?

18 A. Yes, sir.

19 Q. And did you undertake any investigation before
20 you made the representations that are set forth on this
21 emergency order application?

22 A. It was done primarily to the best of our memory.

23 Q. To the best of your memory. You didn't do any --
24 you didn't look at this stack of permit and files that you
25 had?

1 A. Where we did the emergency, we didn't have the
2 stack with us.

3 Q. You didn't take the time to look at it, you just
4 worked off memory; is that what you've testified to?

5 A. Yes, sir.

6 Q. Okay. Now, the application states in -- above --
7 do you see the paragraph that's above "Why do you consider
8 this an emergency?" The paragraph above that, which states
9 the "Facility has an impermeable redbed clay barrier of
10 approximately 150 feet between surface and [the]
11 groundwater." Do you see that?

12 A. Yes, sir.

13 Q. Is that -- Did you intend to communicate to the
14 Division that to the best of your knowledge, underneath
15 your proposed landfarm site there was an impermeable red
16 clay barrier of approximately 150 feet?

17 A. There is a clay barrier, approximately that
18 depth.

19 Q. Underneath your site?

20 A. Yes, sir.

21 Q. Okay. Now, on what basis did you make this
22 statement?

23 A. From -- I'm trying to recall what was in the
24 original application back in 1994 --

25 Q. Okay, let's turn to --

1 A. -- and the tests for the drilling that's
2 referenced in here.

3 Q. All right, let's go to Exhibit Number -- or Tab
4 Number 4 in the notebook. This is your 1994 application,
5 correct?

6 A. Yes, sir.

7 Q. And if we flip through it to page 6 --

8 A. Yes, sir.

9 Q. -- would you -- Have you had a chance to look at
10 this since the time that you submitted this application to
11 the -- this emergency order application to the Division?

12 A. I probably looked at a little bit --

13 Q. Were you --

14 A. -- but not a whole lot.

15 Q. Were you able to find any statement in this 1994
16 Application that said that there was a redbed clay barrier
17 of a hundred -- of approximately 150 feet between the
18 surface of your facility and the groundwater that you
19 encountered 150 feet below your facility?

20 A. I haven't looked at it, that depth, since then,
21 no, sir.

22 Q. Can you point me to any document today as you sit
23 here -- okay? -- that you're aware of, that you have
24 reviewed, that supports your statement that the facility
25 has an impermeable red clay barrier of approximately 150

1 feet between surface and the groundwater?

2 A. It was taken from the fact water was 150 foot to
3 surface and is mostly clays lying below the surface and
4 water.

5 Q. Did you --

6 A. The verbiage may have been a little off.

7 Q. May have been a little off. Did you have any --

8 A. For a --

9 Q. -- soil samples of the characteristics of the
10 soil between the surface of your landfarm facility -- I'm
11 not talking about Triassic Park --

12 A. I understand.

13 Q. Okay? Do you have any soil samples indicating
14 the nature of the soil between your landfarm operation, the
15 surface of your landfarm operation, and the groundwater
16 that you've identified as 150 feet below your facility?

17 A. We had soil samples from a well that was drilled
18 just off the site.

19 Q. Let me have you turn to Tab 7.

20 A. Where are we? Seven?

21 Q. Seven.

22 A. Okay.

23 Q. It's a map of your ranch area?

24 A. Yes, sir.

25 Q. Okay. It's similar to, I guess, what you've

1 marked as your Exhibit Number 7, right?

2 A. Yes, sir.

3 Q. Now, that red -- black square at the top with the
4 two red circles in it --

5 A. Yes, sir.

6 Q. -- does your copy have two red circles?

7 A. Yes, sir.

8 Q. -- that's your landfarm site, correct?

9 A. Yes, sir.

10 Q. And it shows four black dots across that
11 facility?

12 A. Going east and west from outside?

13 Q. Yes.

14 A. Yes, sir.

15 Q. Okay. Were the soil samples that you're
16 referring taken from any of those four black dots?

17 A. Yes, sir.

18 Q. They were?

19 A. Yes, sir.

20 Q. Okay, and what are the results?

21 A. It's predominantly clay, tight clay-type soils.

22 Q. That's your understanding?

23 A. Yes, sir, but I'm not a geologist.

24 Q. Now, you also represent here that the water
25 quality in that groundwater below your facility had TDS in

1 excess of 15,000 parts per million, right?

2 A. Yes, sir.

3 Q. Did -- Prior to making that statement to the
4 Division, did you review your file or conduct any
5 investigation, or were you again operating off of memory?

6 A. We were operating off of memory and off of the
7 stuff that Stoller submitted, Jim Bonner prepared.

8 Q. Okay. Now, let me have you look at Tab Number 4
9 -- 3.

10 A. Yes, sir.

11 Q. This is the public notice for your landfarm
12 operations, correct?

13 A. Yes, sir.

14 Q. If you go down towards the bottom --

15 A. Yes, sir.

16 Q. -- second-to-the-last sentence --

17 A. Yes, sir.

18 Q. -- "Ground water most likely to be affected by an
19 accidental release is at a depth of 150 feet with a total
20 dissolved solids concentration of approximately 4920..."

21 A. Yes, sir.

22 Q. You had forgotten about that, I guess, when you
23 filed this application with the Division?

24 A. Yes, sir.

25 Q. Okay. Now, were you here for the testimony of

1 Larry Gandy on March 25th?

2 A. Yes, sir.

3 Q. Okay, I want to have you page to page 141 of this
4 transcript, please.

5 A. Yes, sir.

6 Q. Okay. Now, Mr. Gandy indicated that -- at the
7 time of that hearing, that he did his -- this application
8 off of memory as well.

9 A. Yes, sir.

10 Q. Okay, and I'm looking at paragraph -- or line 22.
11 Do you see that towards the bottom?

12 A. Yes, sir.

13 Q. Okay, I'm going to read that, and then I want to
14 ask you couple questions, okay?

15 It says, "In my original permit application from
16 1994 I have various 200-foot wells drilled through the
17 facility that are showing dry. I had three that had
18 perched water in them, and my TDS's ranged from the 4920 to
19 1880 [sic]. So I -- that was my mistake, I did that
20 off...memory."

21 Okay, now he states in here that three of the
22 wells drilled had what you called perched water in them at
23 150 feet, right? Is that your recollection as well?

24 A. I've slept since then, but if this is it...

25 Q. Okay, if you could go back to Tab -- leave your

1 finger on that, leave that open -- if you could go back to
2 Tab 7 for me, please.

3 A. Yes, sir.

4 Q. Can you identify for the Examiner the three wells
5 in your facility that you said had perched water at 150
6 feet?

7 A. I didn't say that.

8 Q. I'm sorry, Mr. Gandy?

9 A. I couldn't tell you what he was thinking of.

10 Q. Is he going to testify here today?

11 A. As far as I know.

12 Q. Do you know which test -- which wells were used
13 to determine that you had water at 150 feet?

14 A. No, sir.

15 Q. You do not?

16 A. There's a well drilled in the middle of the
17 facility and a well drilled off to the edge. The logs,
18 which I'm sure you have, will show.

19 Q. Did it have water in them?

20 A. I'm not a logger either.

21 Q. Well, you're the one that's -- Well, let me back
22 up.

23 You made a representation to the Division in
24 March of this year that you had water well -- you had water
25 below your facility at 150 feet. What were you using to

1 rely -- What were you relying upon to make that statement?

2 A. The original application, made the same
3 statement.

4 Q. The 1994 application?

5 A. Yes, sir.

6 Q. Okay. And you don't recall, Mr. Marley, which of
7 the wells on here had water at 150 feet?

8 A. No, sir.

9 Q. Do you recall which of the wells on this map were
10 utilized to test the water below you -- to test the water
11 at the time of the 1994 application?

12 A. There was no water samples taken from any wells
13 below the landfarm in the 1993-94 drilling program.

14 Q. Well, when Mr. Gandy made the statement to the
15 Examiner that I had three that "I had three that had
16 perched water in them, and my TDS's ranged from the 4920 to
17 18,800", he wasn't talking about any of the wells that were
18 drilled across your landfarm facility, was he?

19 A. I don't know.

20 Q. Well, didn't you just say you didn't test any
21 water in those four -- in those four wells drilled across
22 your facility?

23 A. Not that I'm aware of.

24 Q. So what wells would he have been referring to
25 when he said "I had three that had...TDS's rang[ing] from

1 the 4920 to 18,800"?

2 A. Probably PB-14, WW-1 and WW-2.

3 Q. Okay, now where are those located on this map?

4 A. 14 is not located on your map. They're to the
5 south, down there in Section 8, about the middle or -- no,
6 not the -- it would be the lower part of Section 8, at the
7 intersection of the road, would be WW-1.

8 Q. Okay.

9 A. WW-2 would be in the south of the section -- the
10 south -- north side of the section -- of the south section
11 line, 19, at the southwest corner of the southeast corner.

12 Q. Okay, what about that red dot in the middle of
13 your --

14 A. I don't have a red dot in the middle.

15 Q. I'm sorry, the black dot in the middle of your
16 Triassic Park facility?

17 A. That's not where PB-14 would be, no.

18 Q. It's not?

19 A. It's further to the west, actually.

20 Q. Is there -- Was PB-14 drilled within your
21 Triassic Park facility?

22 A. Drilled just to the outside edge of it.

23 Q. Just the outside edge of it?

24 A. I believe, from the maps I've seen.

25 Q. All right, let me have you turn -- Keep that map

1 out for me, would you, please?

2 A. Yeah.

3 Q. Keep it folded out. I want you to turn to your
4 1994 application.

5 A. Where are we at?

6 Q. Tab Number -- Well, you know, I think you have an
7 exhibit, right? That would be your Exhibit Number --

8 A. -- 1.

9 MR. DOMENICI: Exhibit 1.

10 THE WITNESS: Okay.

11 Q. (By Mr. Feldewert) That's your 10-6-94
12 application?

13 A. Yes, sir.

14 Q. Okay, now you've got three wells that were
15 tested, right?

16 A. Yes, sir.

17 Q. For water quality? And they're towards the end
18 of the Application?

19 A. Yes, sir.

20 Q. You've got well number 1 -- If I go to the end of
21 that application, it's Attachment A --

22 A. Yes, sir.

23 Q. -- right after the map --

24 A. Yes, sir.

25 Q. -- it says "...Analytical Laboratories" at the

1 top?

2 A. Yes, sir.

3 Q. It shows a sample description for well number 1,
4 right?

5 A. Uh-huh.

6 Q. All right, that would be for the WW-1 and 2,
7 related as to on Ex- -- on Tab 7?

8 A. Probably so.

9 Q. Is that your understanding?

10 A. Well, 1 is on this map. That's -- it would be --
11 it's -- Yeah, it would be related to WW-1, because there
12 was never a well drilled where it's shown on this map.

13 Q. Okay, so that's W- -- that's -- if I go to Tab 7
14 in our -- CRI's Exhibit Number 7 --

15 A. Yes, sir.

16 Q. -- the black dot below the south end of Section 8
17 is WW-1?

18 A. Yes, sir.

19 Q. And well number 2 on this sample is down in
20 Section 19, correct, on --

21 A. Yes, sir.

22 Q. -- Tab 7?

23 And then well number 3, is that the PB-14 that
24 you say is just outside the Triassic Park facility?

25 A. Yes, sir.

1 Q. That's well number 3 on this analytical result?

2 A. Yes, sir, that's what this map shows.

3 Q. Okay. Now let's go to the test results.

4 A. Okay.

5 Q. Well number 1 has a total dissolved solid of
6 what? TDS of what?

7 A. 11,900, I believe.

8 Q. Okay, so the test results in 1994 showed 11,900?

9 A. I believe so.

10 Q. Do you know which formation that was tested from?

11 A. Not for sure, no.

12 Q. But it -- Is it the Santa Rosa formation?

13 A. I'm not -- I couldn't tell you.

14 Q. And then well number 2 has what sample results?

15 A. 18,800 on TDS.

16 Q. Okay. And do you know if that was tested from
17 the Santa Rosa formation?

18 A. Not for sure, no, sir.

19 Q. Okay. If I take 18,800 and add it to 11,900 and
20 divide it by 2, I come up with an average of 15,350.

21 A. Okay.

22 Q. So is that where you think you may have gotten
23 your TDS of 15,000?

24 A. Probably came from remembering that it -- one of
25 them was over 18,000, and I can't -- you remember your top

1 ends, you don't always remember your low ends.

2 Q. Okay. And that result would have been from a
3 water well a mile south of your facility and another water
4 about one, two -- almost two miles south of your facility.
5 And you don't remember what formation?

6 A. No, sir.

7 Q. You don't remember if it was a deep formation of
8 the Santa Rosa or a shallow formation of the Chinle?

9 A. I don't know the difference between the Santa
10 Rosa and the Chinle, sir.

11 Q. Okay. If you come up with a 15,000-TDS figure,
12 it must not include what was shown in this test results for
13 well number 3, because what's the result for well number 3?

14 A. Four thousand nine hundred and something, I
15 believe.

16 Q. Which is a number that was used in the public
17 notice for your 1994 application?

18 A. I guess so.

19 Q. Okay. So when you made this 15,000-TDS
20 representation to the Division, you had forgotten about the
21 public notice, I assume, right?

22 A. It's been a little bit of time since then, yes,
23 sir.

24 Q. And you've forgotten about the test results for
25 that well number 3 outside of your Triassic Park facility,

1 which I will represent to you is from a shallower
2 formation?

3 A. Yes, sir.

4 Q. It was, wasn't it?

5 A. Yes, sir.

6 Q. It was from the Chinle?

7 A. I don't know what the name of it was, but yes,
8 sir.

9 Q. It was a shallow one, though, wasn't it?

10 A. Yes, sir.

11 Q. The other two wells were from a deeper formation,
12 weren't they?

13 A. Yes, sir.

14 Q. So when Mr. Gandy made the representation to the
15 Division that he had TDS's ranging from 4920 to 1880 [sic]
16 on March 25th, he wasn't talking about any wells that were
17 drilled -- samples taken across your landfarm facility, he
18 was talking about these samples to the south --

19 A. Probably.

20 Q. -- of your facility?

21 So Mr. Marley, if you -- you also testified here
22 today that you understood from your test results that the
23 water below your facility was not suitable for livestock?
24 And I'm talking about the test results prior to the more
25 recent drillings that we've just received.

1 A. Okay, which test results are you talking about?

2 Q. I'm talking about the test results in your 1994
3 application.

4 A. I don't think I've testified anything about test
5 results before the 1994 application.

6 Q. Okay. So if you had looked at your 1994
7 application before filing your emergency order, don't you
8 think that the most applicable TDS reading to your landfarm
9 facility was the 4920, rather than your average of the two
10 deeper test wells?

11 A. It was further away than the 11,900.

12 Q. Which -- you just put 11,900 in your emergency
13 order?

14 A. No, sir, and I personally didn't put the 4900 in
15 the other one, or the 15,000 in it either.

16 MR. FELDEWERT: Okay. I don't have any further
17 questions.

18 EXAMINER JONES: Mr. Neeper?

19 EXAMINATION

20 BY DR. NEEPER:

21 Q. I have one question of two parts, which is simply
22 a clarification.

23 A. Yes, sir.

24 Q. You have testified that under your revised
25 permit, if granted, you would be allowed to accept

1 petroleum and chlorine-impacted debris?

2 A. Yes, sir.

3 Q. I want to just provide two examples of that. For
4 example, if I were a small operator that had cleaned up a
5 crude oil site and I had a bunch of old gathering lines and
6 hardware that's now waste, would I be able to bring that to
7 you for disposal? It is crude oil, in fact.

8 A. I think that would be up to the OCD, how they
9 issue the permit, sir, what the final permit would say.

10 Q. All right. Would you be expecting your permit
11 would allow you -- would that be within your statement of
12 petroleum-impacted debris?

13 A. Possibly.

14 Q. A similar question would be if I had a crude oil
15 pipeline and I had a break in the pipeline and I scooped up
16 some old cement stanchions and various broken parts. Would
17 that be the kind of impacted debris you would be expected
18 to accept?

19 A. It depends on what you meant by various parts,
20 but the -- like cement stands, yes, sir.

21 Q. Cement stanchions and the soil that surrounded
22 them.

23 A. Yes, sir.

24 Q. It's a disaster area if somebody scoops it up and
25 puts it in a truck?

1 A. Right.

2 DR. NEEPER: Thank you, that's all the questions.

3 MR. FELDEWERT: Mr. Examiner, I have just one
4 matter of procedure before we continue. In the interests
5 of time, I anticipate moving the admission of our exhibits
6 at the end of the case. If that's going to pose a problem
7 with either yourselves or opposing counsel, I can try to do
8 it in a piecemeal fashion as we move along, but I'd rather
9 try to do it at the end of the case.

10 MR. APODACA: Counsel?

11 MR. DOMENICI: As long as objections are reserved
12 till then, that's fine.

13 MR. APODACA: Dr. Neeper?

14 DR. NEEPER: No objection.

15 MR. APODACA: Ms. MacQuesten?

16 MS. MacQUESTEN: (Shakes head)

17 MR. APODACA: Do you have any questions?

18 MS. MacQUESTEN: Just one.

19 EXAMINATION

20 BY MS. MacQUESTEN:

21 Q. You testified before that you felt that you had
22 not met all of the OCD requirements under your current
23 permit.

24 A. Yes, ma'am.

25 Q. What requirements have you not met?

- 1 A. We're probably short on some monitoring reports.
- 2 Q. How short?
- 3 A. I'm not sure, ma'am. That's not my area.
- 4 Q. Any other defects?
- 5 A. Not that I'm aware of, ma'am.
- 6 Q. When can we expect the reports?
- 7 A. We can get this part put up, we'll work on that
- 8 part.
- 9 MS. MacQUESTEN: Thank you.
- 10 EXAMINER JONES: Okay, Mr. Domenici?
- 11 REDIRECT EXAMINATION
- 12 BY MR. DOMENICI:
- 13 Q. There were a couple questions about how you
- 14 handle tankbottoms.
- 15 A. Yes, sir.
- 16 Q. Describe -- Actually, turn to Exhibit 13.
- 17 A. Ours, theirs?
- 18 Q. Ours.
- 19 A. Yes, sir.
- 20 Q. And turn to page 3, please.
- 21 A. Okay.
- 22 Q. Paragraph 2.
- 23 A. Yes, sir.
- 24 Q. Do the tankbottoms remain in the -- either the
- 25 settling -- the receiving tank or the solidification --

1 A. I was on the third page.

2 Q. It says page 3 -- where it says page 3 at the
3 top.

4 A. I'm not used to doing this much reading. Okay,
5 which paragraph?

6 Q. Number 2.

7 A. Yes, sir.

8 Q. The question is, do the tankbottoms remain in the
9 settling or the receiving tank or the solidification --

10 MR. APODACA: Mr. Domenici, where are you exactly
11 with --

12 MR. DOMENICI: It says page 3 on the actual
13 document. It's actually -- I guess it's page 5 of the --

14 MR. APODACA: Yes, thank you very much.

15 THE WITNESS: No, they don't stay in there.

16 Q. (By Mr. Domenici) Okay, where do they go?

17 A. They go into the landfarm --

18 Q. So --

19 A. -- after they're mixed with soils.

20 Q. So you're not -- you're not asking to expand the
21 size of the receiving tank?

22 A. No, sir.

23 Q. Or the solidification -- any part of the
24 solidification process?

25 A. No, sir, not at this time.

1 Q. Now, you were asked about -- you were asked a
2 number of questions about the statements in the emergency
3 application.

4 A. Yes, sir.

5 Q. At the time you made that emergency application,
6 did you have reports of monitoring -- sample monitoring
7 reports from the landfarm cells?

8 A. Oh, yes.

9 Q. Had you received data on how the landfarms were
10 performing?

11 A. Yes, sir.

12 Q. And how were they performing?

13 A. Excellent.

14 Q. What was -- What did the report show as far as
15 leaching?

16 A. None.

17 Q. And how long had some of those cells been used?

18 A. Since 1994, 1995, early 1995.

19 Q. So you had information in 2005, early 2005, that
20 there had been essentially no leaching from your landfarm
21 cells?

22 A. Yes, sir.

23 Q. Was that information that you used in feeling
24 comfortable about making an emergency application?

25 A. Yes, sir.

1 MR. DOMENICI: That's all I have.

2 EXAMINER JONES: Mr. Feldewert?

3 RECROSS-EXAMINATION

4 BY MR. FELDEWERT:

5 Q. Mr. Marley, what report are you talking about?

6 A. Just from the quarterly analysis.

7 Q. Do you have that report with you here today?

8 A. Yes, sir.

9 MR. DOMENICI: We're going to introduce it
10 through another witness.

11 MR. FELDEWERT: Okay. And is that the January
12 27th, 2005, report?

13 MR. DOMENICI: Yes, it is.

14 Q. (By Mr. Feldewert) That's your -- That's the
15 only annual report you've ever issued to the Division that
16 I could find in your file for your landfarm.

17 A. I'm not sure.

18 Q. Do you recall issuing -- Do you recall putting
19 together any other annual report and submitting it to the
20 Division?

21 A. I don't do the reporting, sir.

22 Q. Who does that?

23 A. Larry had been. Now we've hired a third party.

24 Q. Larry --

25 A. -- Gandy.

1 Q. -- Gandy?

2 A. Yes, sir.

3 Q. All right. And when did you hire a third party?

4 A. December of '04.

5 Q. And why did you hire a third party handling your
6 reporting?

7 A. Because we realized that we had not been keeping
8 up in the manner that we should.

9 Q. When you investigated and determined that you
10 hadn't been keeping up with your reporting in the manner
11 that you should have, what were the results of your
12 investigation? What did you look at and what did you find?

13 A. I actually didn't do an investigation, sir.

14 Q. Well, somehow you determined that you hadn't been
15 meeting up to your reporting requirements, right?

16 A. Been in discussion.

17 Q. Well, what led you to the conclusion that you
18 hadn't met your reporting requirements? What did you look
19 at?

20 A. I didn't look at anything, I was just going off
21 what I was told.

22 Q. Had you filed any report?

23 A. I think they've found some since, yes, sir.

24 Q. Do you know how many?

25 A. No, sir.

1 Q. How about one?

2 A. Pardon me?

3 Q. How about one? Did you find one?

4 A. At least.

5 Q. Do you recall any more than one? Because I only
6 found one.

7 A. I think they found more than one, but I'm not
8 positive. I didn't go through the office that day.

9 Q. And that would have been one quarterly report?

10 A. I'm not positive.

11 MR. FELDEWERT: Okay, that's all I have.

12 EXAMINER JONES: Mr. Domenici, Exhibit 17, did it
13 ever come? Did it ever arrive?

14 MR. DOMENICI: Yes.

15 FURTHER EXAMINATION

16 BY MR. DOMENICI:

17 Q. Can you identify Exhibit 17?

18 A. It's some water quality analysis information
19 taken off the Internet.

20 Q. And was this water quality information related to
21 cattle production?

22 A. Yes, sir.

23 Q. And would this show stock watering limits that
24 you'd considered?

25 A. Yes, sir.

1 Q. Are those the limits on page 3 --

2 A. Yes, sir.

3 Q. -- in the table?

4 A. The third page, yes, sir.

5 Q. And it shows a TDS, a total dissolved solvent --
6 solids, 5000 to 7000?

7 A. Yes, sir.

8 Q. So is this additional information that would
9 confirm that the water quality in those wells is
10 insufficient for your livestock?

11 A. Yes, sir.

12 MR. DOMENICI: I'll move admission of Exhibit 17.

13 MR. FELDEWERT: Mr. Examiner, I have a couple
14 problems. I'm not -- I can't tell from this document where
15 it came from.

16 THE WITNESS: The page behind the table, at the
17 top of the page says, "The 'Water Limits' above are adapted
18 from established standards provided by the United States
19 Environmental Protection Agency, National Academy of
20 Sciences, Council for Agricultural Sciences and Technology,
21 USDA Natural Resources conservation Service and other such
22 organizations."

23 MR. APODACA: Mr. Domenici, I think he's raising
24 -- Mr. Feldewert's raising a question about the authorship
25 of this document. It's a little unclear, also, exactly who

1 authored this document. Maybe if you want to lay some more
2 foundation exactly how he obtained --

3 MR. DOMENICI: Yeah --

4 MR. APODACA: -- this document --

5 Q. (By Mr. Domenici) -- describe the site, the
6 website or the -- how you obtained this.

7 A. Okay, I pulled up water quality, livestock. This
8 site was one quite a few that came up. On the page -- top
9 of the page, behind that constituent levels, reads as I
10 have just read, where this information came from.

11 MR. APODACA: Mr. Dom- --

12 THE WITNESS: Do I need to re-read that?

13 MR. APODACA: No.

14 MR. DOMENICI: No.

15 MR. APODACA: Mr. Domenici, I think it's the
16 authorship of the document that's in question here, and I
17 think without at least knowing the authorship of the
18 document, I think Mr. Feldewert has a legitimate objection.

19 Q. (By Mr. Domenici) Did -- Was this authored by
20 Servi-Tech Laboratories?

21 A. I believe it was.

22 Q. And why -- what's your basis for that?

23 A. Just trying to remember where it came from. I
24 mean, where -- the heading that was on it.

25 MR. DOMENICI: I would propose that just the

1 table be admitted. The table has a clear reference for it.

2 MR. APODACA: Mr. Feldewert?

3 MR. FELDEWERT: Mr. Examiner, I don't want to be
4 obstructionistic here, but I think this table and this
5 document really has a problem. I mean, I can go to the --
6 you can go to the Internet and pull up a lot of stuff. You
7 don't know who typed it, you don't know who put it
8 together, there's no citation to any authority that can be
9 examined. It's just a representation from someone that
10 this data was taken from the U.S. Environmental Protection
11 Agency or some other document, without any reference to
12 what it is.

13 So I think there's a real problem, you know, and
14 you have a lot of leeway here --

15 EXAMINER JONES: Okay, I think --

16 MR. FELDEWERT: -- and I think there's a real
17 problem with this document.

18 EXAMINER JONES: I think we're going to sustain
19 the objection on this exhibit.

20 MR. APODACA: If you lay a proper foundation, Mr.
21 Domenici, through other witnesses, I'm sure you have other
22 testimony --

23 MR. DOMENICI: I'll revisit it if I can. I
24 understand your ruling.

25 MR. APODACA: Okay.

EXAMINATION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BY EXAMINER JONES:

Q. Okay, Mr. Marley, the contour map that you're showing here --

A. Yes, sir.

Q. -- Exhibit 7, I think --

A. Yes, sir.

Q. -- it shows the contours getting closer as you go towards the east side of your facility. What about surface water runoff on this facility?

A. There's a --

Q. How do you protect against that?

A. If you'll look above the top, there's a -- it's fairly flat right above it. We've got a big berm.

Q. You've got a berm around the --

A. Yes, sir, around the --

Q. -- whole facility?

A. Yes, sir.

Q. Okay.

A. And we've had some big rains in the last 15 years --

Q. Yeah.

A. -- and I haven't had any problem.

Q. Is your berm made out of local soil?

A. Yes, sir.

1 Q. I've got some questions written here, but some of
2 these I might think of a little bit later and I might have
3 to call Mr. Marley back up, but...

4 Where's the majority of the drilling going on now
5 in the Permian Basin, as far as New Mexico goes?

6 A. Just all over, as far as I know.

7 Q. So you have no idea whether it's close to your
8 facility or a long ways away or --

9 A. There's a fair amount close, a fair amount north
10 of Roswell and east of Roswell, a fair amount between our
11 facility and Tatum, Lovington, Loco Hills, Maljamar,
12 Carlsbad, just --

13 Q. All over?

14 A. -- anywhere where there's potential, there's
15 drilling.

16 Q. Okay. Are you familiar with the way that
17 drillers are handling their drill cuttings now, when -- Are
18 they isolating the cuttings before they hit the salt, and
19 they bring them to you or another facility to put in your
20 landfarm, or do they -- and they do they have two separate
21 pits now, reserve pits?

22 A. I'm not sure, I don't gather that end.

23 Q. What about the salinity of the cuttings that come
24 to you and that you envision putting in this landfill
25 facility or -- facility, to handle the salt cuttings? Is

1 that -- Is there a measurement above which you would put in
2 here or a measurement below which you would put somewhere
3 else?

4 A. Not --

5 Q. How --

6 A. -- that I'm --

7 Q. -- do you determine --

8 A. -- aware of.

9 Q. -- where to put them when they -- the trucks
10 come? They just tell you they're salt cuttings and --

11 A. Yes, sir, they keep that separate from
12 hydrocarbons.

13 Q. So you don't have a measurement of the salinity
14 of the cuttings themselves.

15 When you go to fill up one of your cells, do you
16 somehow mix -- what do you do to it? Do you mix some more
17 soil into it to try to reduce the total salinity of the
18 cuttings?

19 A. Not for the salinity, no, sir.

20 Q. So there's really nothing you can do about it, so
21 you don't measure it?

22 A. We have -- I don't know that the OCD has a
23 guideline on the salinity content or the levels, published.

24 Q. Well, they may not, but you guys are the ones
25 taking the stuff, so I'm --

1 A. Right.

2 Q. -- just wondering if you had a feel for that?

3 A. Our geologist has taken some samples of the
4 drilling mud --

5 Q. Okay.

6 A. -- so he'll -- he can answer that one better.

7 Q. Okay, that's fine.

8 What about when the -- when you put a cap on that
9 cell, is it ever going to grow plants above it, above that
10 cell?

11 A. Yes, sir.

12 Q. Will weeds grow --

13 A. Yes, sir.

14 Q. -- above it? And what level of salinity will the
15 weeds grow and what level will they don't -- In other
16 words, how much soil do you have to put above it? How can
17 you guarantee that's going to happen and not going to
18 create another blowing area that's -- could cause a bunch
19 of dead soil and dead land?

20 A. Put two foot of soil on it and re-seed it, and
21 then probably have to spray some water on it to get a stand
22 established, until another -- such time that it developed
23 enough root growth to maintain. And some plants are more
24 highly tolerable to salt than others.

25 Q. So what kind of plants do you put on it?

1 A. In that area we have sunflowers and -- saltwing
2 some- -- I don't -- I'm not a -- I run cows.

3 Q. Real sunflowers, with the big heads?

4 A. No, the little -- the little ones.

5 Q. But is it true that your experience is, you are
6 able to actually get weeds or some kind of plants to grow
7 on these cells after they're closed?

8 A. Yes, sir. Our soil has -- our natural soil has a
9 fairly high salt content also. The mesquite grows good
10 there.

11 Q. Yeah. Speaking of that, your 40-square-mile
12 ranch, is it a square or is it a rectangle that goes along
13 the caprock?

14 A. It's probably widest at the point where it goes
15 through the landfarm from north to south and then gets a
16 little narrower as it runs back to the west and also back
17 to the east.

18 Q. Okay, kind of a diamond shape then?

19 A. It's kind of an odd shape.

20 Q. And you've never used any water off of the
21 caprock, so far?

22 A. You mean under the caprock?

23 A. I mean off -- Once you get off the caprock,
24 you've never drilled any wells for windmills?

25 A. No, sir.

1 Q. Have you tried?

2 A. When we bought -- when we -- No, sir. When we
3 bought that place, all the water was piped off the top of
4 the caprock --

5 Q. So there was pipelines --

6 A. --- and we were told -- There was an old dry hole
7 that a guy told me about that was close up WW-2, and
8 there's still a wooden windmill tower there. It's about a
9 half a mile to the west. Maybe not quite, but close to it.
10 The man that was there when they drilled it said they
11 drilled it 800 foot and they hit water. They put a
12 windmill up and pumped dry the first day. Never pumped
13 after that.

14 Q. So you never tried drilling for water to water
15 your livestock?

16 A. No, sir.

17 Q. What would you do if your ranch was solely below
18 the caprock, for water for your livestock? What would you
19 do?

20 A. I'd be in trouble.

21 Q. What do other ranchers do? Do you know?

22 A. The rancher to the north of me has a pipeline
23 that's across the highway, has a pipeline that comes off of
24 the caprock to the BLM line. It was a co-op type line.
25 But that water actually comes off the Ogallala tied to the

1 cap. That's how they -- that's their sole supply of water.

2 Q. And you're not aware of any other ranches that
3 actually get their water from below the caprock?

4 A. To the south there's some and to the east there
5 is some -- or to the west, excuse me, where they've had
6 some pockets, but it's several miles.

7 Q. Okay. Well, how would your facility -- the water
8 under your facility that -- apparently there's not much
9 deliverability to it. I guess we're going to have more
10 testimony on that later, but... And the salinity is up and
11 down, depending on where you measure it. But how would
12 that relate to other areas below the caprock? Is it real
13 similar water anywhere in these redbeds?

14 A. I -- out on those ranches further away -- I'm not
15 an expert, but probably.

16 Q. Can you go through this permit that you're
17 applying for right now? We're supposed to be looking at
18 approval of a permit modification here. Can you go through
19 it with us? What exhibit is it and --

20 MR. APODACA: It's Exhibit 5 --

21 EXAMINER JONES: Exhibit --

22 MR. APODACA: -- Gandy Marley Exhibit 5.

23 Q. (By Examiner Jones) Okay, Gandy Marley Exhibit
24 5. And show us specifically the notice requirements and
25 how you met the notice requirement.

1 A. It says, "Attach proof that the notice
2 requirements of OCD...711 have been met." And I don't --
3 Where was I?

4 MR. DOMENICI: Exhibit --

5 MS. HOLLINGSWORTH: -- 16.

6 THE WITNESS: 16? Okay. 16 has the notice
7 requirement -- that the notice requirements have been met.

8 Q. (By Examiner Jones) Okay, you noticed the county
9 commissioners in here somewhere?

10 A. Yes, sir. Maybe it's the third page.

11 Q. Chaves County?

12 A. Or second page, yes, sir.

13 Q. State Land Office. Is this State lands?

14 A. Yes, sir -- not -- The facility is not. There's
15 some State land just shy of a mile away from it.

16 Q. So there's in this area, like for instance your
17 ranch, is it BLM, State --

18 A. Yes, sir.

19 Q. -- fee, all three?

20 And Chaves county line is where? Is it --

21 A. It's not actually shown on this map, it is the --
22 actually, it's the township line to the east. It would be
23 three and a half miles east, or to where the Chaves-Lea
24 County line is.

25 Q. So you're three and a half miles from Lea County?

1 A. Yes, sir.

2 Q. Is Lea County up on the top of the caprock?

3 A. Yes, sir.

4 Q. Okay. The newspaper notice, is it in here
5 somewhere? Here we go.

6 A. Yes, sir.

7 Q. Okay, is there anything else about this
8 Application that you would -- this closure plan, for
9 instance? How many years does it take to implement a
10 closure plan, or is it done as you fill up a cell? Is
11 that --

12 A. As a cell fills we'll start filling from one end,
13 going to the other. And as we fill we'll bring it to grade
14 and start capping and closing as we come out.

15 Q. Is there ever going to be a point in time when
16 you're going to actually not be taking anything in and be
17 continuing the closure of the facility?

18 A. When we're full, yes, sir.

19 Q. When you're totally full --

20 A. Yes, sir.

21 Q. -- this will be it?

22 And how long will that take, to finish that?

23 A. It won't take very long at all, because at the
24 most we'll have open -- of exposed -- above -- material --
25 probably be less than a hundred foot. So as we come out

1 we'll cap it, re-vegetate, the closure will be an ongoing
2 thing.

3 Q. How about the bond, the financial assurance for
4 this. Will you get your bond back when you finish closing
5 it up? Is that the deal?

6 A. I guess whenever the State is satisfied that
7 everything looks good.

8 Q. Are these permits modified or -- What I mean is,
9 are there permit reviews done every few years on these
10 permits?

11 A. Yes, sir, I believe every five years.

12 Q. Okay. Do you guys have to initiate that, or do
13 you wait for the State to --

14 A. It's my understanding that we don't have to
15 initiate that.

16 Q. So you wait for them to --

17 A. I believe so.

18 Q. -- environmental group to tell you --

19 A. I believe so, but don't hold me to that.

20 Q. What have they done in the past? Have they had
21 -- you've had some reviews in the past?

22 A. Yes, sir.

23 Q. What do they do?

24 A. We've had annual inspections. And I don't know
25 what they do in the reviews up here, as far as that goes,

1 no, sir.

2 Q. But they come out and inspect, basically?

3 A. Annually they do.

4 Q. And review any documents that you --

5 A. Yes, sir.

6 Q. -- new documents that you -- Okay.

7 How long has Gandy Marley been around, Gandy
8 Marley, Incorporated?

9 A. Oh, we started -- we basically formed a
10 partnership probably in about 1991, 1992, informal. And I
11 can't remember when it was incorporated.

12 Q. Is -- do you guys have anything from the -- In
13 other words, your competence as an operator, do you have
14 any awards from the Division or anything like that? Do you
15 have any kind of -- do you have a -- notice of violations
16 from the Division?

17 A. We don't have any notice of violations from the
18 Division. We have an award from Energen Minerals, a
19 citation of merit or something -- I can't exactly -- where
20 we helped with the cleanup on some lands, I believe, that
21 were owned by Game and Fish.

22 Q. That's not connected with this facility?

23 A. Yes, sir.

24 Q. It is?

25 A. We actually helped the cleanup and helped take

1 some -- remediate --

2 Q. Into this facility?

3 A. Yes, sir, and to the approved facility.

4 Q. Okay. I think -- How about your safety record,
5 and how many people do you employ, and --

6 A. Employment varies, depending on how busy we are.
7 Right now we have two full-time at the facility and then a
8 temporary and a part-time. We've had no issues.

9 Q. How about -- If you were going to save some money
10 on your operations, how would you do that?

11 A. I wouldn't cut any corners.

12 Q. Okay, that was the answer I'm looking for.

13 As far as the monitoring goes, who takes the
14 samples and who analyzes the samples? I think you --

15 A. First -- In December we contracted with Clay
16 Barnhill, CMB Technologies, or whatever, to start taking
17 all our samples. He submits them -- or ships them to
18 TraceAnalysis, Dr. Blair Leftwich in Lubbock, which is a
19 certified lab.

20 And then the results come back to Clayton and he
21 prepares the reports and the documentation.

22 Q. But you weren't doing it before then?

23 A. We had a little bit of issue with it not being
24 done in a timely fashion.

25 Q. How long have you been taking salt-contaminated

1 drill cuttings?

2 A. Years.

3 Q. And what kind of cells -- or what kind of
4 treatments have you been doing to them? They've been going
5 into your same facility that the oil-contaminated?

6 A. Yes, sir, into the same facility, separate cells.
7 We're required to disk every two weeks, and we've been
8 doing that, put them in six-inch lifts like we were
9 required to do.

10 Q. So what would you be doing different if you get
11 this permit approved?

12 A. Instead of going into six-inch lifts, it will be
13 placed thicker, it will be encapsulated, covered.

14 Q. With a liner, with some clay --

15 A. Clay --

16 Q. -- clay liner?

17 A. -- proposed a clay liner at the bottom of the
18 cell, and then enough cap to permit -- or to prevent
19 rainwater -- an evapotranspiration-type cap.

20 EXAMINER JONES: Okay. Okay, that's all I've
21 got.

22 EXAMINATION

23 BY MR. APODACA:

24 Q. Mr. Marley, I had a few questions regarding the
25 wells that were used and tested when the original

1 application was filed and then that were tested under the
2 report that was submitted as Gandy Marley Exhibit 8.

3 A. Yes, sir.

4 Q. Let me ask you, on the original application,
5 which is your Exhibit --

6 A. I think it's 1.

7 EXAMINER JONES: 5 and 16.

8 Q. (By Mr. Apodaca) I think it's Exhibit 5.
9 Exhibit 5, the '05 Application.

10 A. Okay. Yes, sir.

11 Q. I'm looking at a report, an analytical report,
12 that's towards the back as an attachment to the exhibit.

13 A. Yes, sir.

14 Q. And the -- I'm looking at well number 3 with a
15 sodium content of 1640; is that correct? I think that's
16 right -- the first page right after the cover page of that
17 report.

18 A. Yes, sir.

19 Q. I think the report covers wells 1, 2 and 3. It's
20 dated --

21 A. Yes, sir.

22 Q. Well number 3, can you -- this is a well -- I
23 think probably we could refer to CRI's Exhibit Number 7 in
24 the binder --

25 A. Yes, sir.

1 Q. -- the green binder.

2 A. Yes, sir. Okay.

3 Q. I want to refresh myself on this. Where is
4 Exhibit -- I mean, I'm sorry, excuse me -- Where is well
5 number 3 on this exhibit?

6 A. Okay, go to this -- it's not --

7 Q. Not there?

8 A. Well, the dot's not in the right spot.

9 Q. Okay, maybe you have a better exhibit.

10 A. Go to -- let me -- Give me a minute. Okay, go to
11 Exhibit 10, Figure 4.

12 MR. APODACA: You gentlemen have buried us in
13 exhibits up here, so...

14 Q. (By Mr. Apodaca) It's Gandy Marley Exhibit 10?

15 A. Yes, sir.

16 Q. Okay.

17 A. You'll see well number 3 in the west half of
18 Section 18, instead of the east half.

19 Q. Exactly where is your facility in the -- on --
20 that you're seeking modification of permit for?

21 A. May I come up here and -- ?

22 Q. Sure.

23 A. The southern boundary of our location is this
24 road right through here. So well 3 is here, 2 is here.
25 Actually it's up here, excuse me. It comes from

1 approximately where this road comes in, up to here.

2 EXAMINER JONES: And this is the first -- the
3 original facility, and this is going to be the addition?

4 THE WITNESS: This is a --

5 EXAMINER JONES: Okay.

6 THE WITNESS: -- so there's no addition. It's
7 all the same facility. This road right here is the
8 boundary.

9 And this actual well here is actually plotted
10 wrong. It is supposed to be at the intersection of these
11 two roads, not those two roads.

12 MR. APODACA: Okay.

13 EXAMINER JONES: So these were taken --
14 environmental --

15 Q. (By Mr. Apodaca) So looking at that
16 clarification, well number 1 is actually the closest well
17 to --

18 A. Yes, sir.

19 Q. -- your facility?

20 And looking at this report, well number 1 had a
21 salinity amount of 4600; is that correct? Sodium, I'm
22 sorry, sodium.

23 A. I would have to look.

24 (Off the record)

25 Q. (By Mr. Apodaca) Does this report address

1 salinity at all?

2 A. I don't know, I didn't prepare this report. TDS
3 in well number 1 was in excess of 11,000.

4 EXAMINER JONES: Can you tell us when you
5 measured that TDS? Was it after you pumped it down to
6 almost dry, or did you do it right off the bat when you
7 first let the well stabilize for a long time and --

8 THE WITNESS: I think it was after it was pumped
9 and recharged. I'm not positive, but I'm sure that you'll
10 have a witness who'll be able to testify to that.

11 EXAMINER JONES: You are sure we will, or not?

12 THE WITNESS: I imagine.

13 Q. (By Mr. Apodaca) I'm just looking at the last
14 page of this report. TDS for well number 1 is at 11,900;
15 is that correct?

16 A. Yes, sir.

17 Q. And then the wells that were the subject -- the
18 two wells that were the subject of Gandy Marley Exhibit
19 Number 8, I know they're on this map.

20 A. Yes, sir.

21 Q. Are they shown -- Which ones are those again?

22 A. MW-1 and MW-2.

23 MR. APODACA: Okay, I see them. All right, I
24 have no further questions.

25 THE WITNESS: Well 1 and 2 and PB-14 are also on

1 that map.

2 EXAMINER JONES: And what does PB stand for
3 again?

4 THE WITNESS: Proposed boring, I believe.

5 MR. APODACA: Those are just boring holes?

6 THE WITNESS: Yes, sir.

7 FURTHER EXAMINATION

8 BY EXAMINER JONES:

9 Q. So the monitor wells were deemed good monitor
10 sites because they were pumped dry?

11 A. Yes, sir.

12 Q. And they're still being used as a monitor?

13 A. They were just installed.

14 Q. Just installed, so you do --

15 A. Yes, sir.

16 Q. -- have monitor wells installed now?

17 A. Yes, sir.

18 Q. And they are --

19 A. -- MW-1 and MW-2.

20 Q. Okay. But your cells that are taking the salt-
21 contaminated waste, are they -- Which ones are they?

22 A. Cell 15 --

23 Q. 15, close to 1.

24 A. -- 18, 20 and 21 are taking it. I'm not sure
25 what others for sure. 15 has been taking it quite a long

1 time.

2 Q. Well, these cells will fill up, and where will
3 you go after that?

4 A. We'll probably go back toward the used existing
5 cells that have been remediated.

6 Q. So there's --

7 A. What we're trying to do is minimize disturbed
8 area.

9 Q. If you do go up to the north part of the
10 facility, will you drill monitor wells up there?

11 A. We'll be able to do whatever the State asks us
12 to.

13 Q. You don't know for sure if they will ask you to
14 do that?

15 A. No, sir, I don't, but...

16 Q. And you just got those wells installed. How
17 often are you going to be sampling from them?

18 A. We propose to sample quarterly.

19 Q. Do you have a reply back from the OCD about that
20 yet?

21 A. I don't believe -- No, sir, I don't believe we
22 have.

23 EXAMINER JONES: I think that's all the
24 questions.

25 MR. APODACA: Okay, one more question.

1 THE WITNESS: Yes, sir.

2 FURTHER EXAMINATION

3 BY MR. APODACA:

4 Q. I'm looking at your Exhibit Number 8, and I see a
5 total -- or TDS under MW-1 on page 7 of that report --

6 A. Now hold on, let me get to --

7 Q. Sorry.

8 A. Okay.

9 Q. I see a report for MW-2 -- I'm sorry, MW-1 --

10 A. Yes, sir.

11 Q. -- TDS on page 7 of 10, of 8930.

12 A. Yes, sir.

13 Q. Do we have one for the other well --

14 A. Yes, sir.

15 Q. -- MW-2?

16 A. Yes, sir.

17 Q. What was that?

18 A. It is page 3 of 10.

19 Q. 8970?

20 A. Yes, sir, 8970.

21 Q. So actually, would it be fair to say that the TDS
22 close to the facility is lower than the wells that were
23 further away from the facility? I think you had 11,000 on
24 the other one, and --

25 A. I'd probably need to get somebody to -- a

1 geologist, hydrologist type --

2 Q. Fair enough.

3 A. -- to answer that question.

4 MR. APODACA: Fair enough.

5 FURTHER EXAMINATION

6 BY EXAMINER JONES:

7 Q. Before you go, this whole permitting process, do
8 you see holes in it? Do you see things that should be
9 asked that are not asked?

10 In other words, do you think there's a bunch of
11 -- the process could be improved to protect the -- protect
12 health and the environment?

13 A. I think the people that work for the OCD are
14 doing -- are very concerned to do a fine job of watching
15 out for the welfare of the environment and the industry.

16 I also think that -- You know, everything can be
17 improved on, but I don't think it's broke, so I don't think
18 that it needs to be fixed.

19 EXAMINER JONES: Okay, thank you.

20 MR. DOMENICI: Could I ask a couple follow-up,
21 based on your questions?

22 EXAMINER JONES: Sure.

23 MR. DOMENICI: What number are we on?

24 THE WITNESS: I've lost count.

25 MS. HOLLINGSWORTH: 18.

FURTHER EXAMINATION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BY MR. DOMENICI:

Q. 18. Let me ask you to look at Exhibit 18. You were asked by the Hearing Examiner if you had any kind of feedback from OCD on performance. Would this letter be a report from OCD?

A. Yes, sir.

MR. DOMENICI: I'll move admission of Exhibit 18.

MR. FELDEWERT: No objection.

EXAMINER JONES: Exhibit 18 will be admitted.

Q. (By Mr. Domenici) And then let me have you look at Exhibit 19. You were asked by the Hearing Examiner about the location of drilling activities and the demand for disposal?

A. Yes, sir.

Q. Does Exhibit 19 indicate the difference in cost, at least for two proposals, between disposal at CRI and Gandy Marley?

A. Yes, sir.

MR. DOMENICI: I'll move admission of Exhibit 19.

MR. FELDEWERT: Exhibit 19 has a second page on it. Did you mean to --

MR. DOMENICI: Yeah, both pages.

MR. FELDEWERT: I have no objection, Mr. Examiner.

1 VOIR DIRE EXAMINATION

2 BY EXAMINER JONES:

3 Q. Where is the Snakeweed Number 1?

4 A. It's north and west of Roswell.

5 Q. So your facility would be the closest one to this
6 one, right?

7 A. By far.

8 EXAMINER JONES: All right, let's admit Exhibit
9 19.

10 (Off the record)

11 EXAMINER JONES: Your next witness --

12 MR. DOMENICI: Our next witness will be a
13 significant witness.14 EXAMINER JONES: Okay, let's go break for lunch,
15 and be back about 10 till 1:00.16 MR. FELDEWERT: If I may, since we're going to
17 break from lunch, I -- at this point it might be
18 appropriate, and I'm going to raise a motion at this point
19 to dismiss, and here's why, okay?20 Rule 711 as part of the permitting process
21 requires the filing of an application that contains
22 enclosure plan [sic] "...including a cost estimate
23 sufficient to close the facility to protect the public
24 health and...environment; said estimate is to be based upon
25 the use of equipment normally available to a third party

1 contractor..."

2 And they have testified here today that they are
3 not submitting this information. They're not submitting
4 any closure plan, they're not submitting any cost estimate
5 by a third party to close this landfill operation. They're
6 not -- they don't -- I thought they were going to do that
7 here today, as you can gather from my motion. They have
8 said now that they're not going to do this.

9 So I would suggest to you that their application
10 at this point, without a closure plan, or without a cost
11 bid estimate, is incomplete. And we cannot go forward, and
12 this should be dismissed.

13 EXAMINER JONES: This is a modification to an
14 existing facility, and it's not going to be expanded. They
15 said it's not going to be expanded. So is not the closure
16 plan for the -- that was previously filed adequate?

17 MR. FELDEWERT: Well, Mr. Examiner, I would
18 suggest this is for a -- the requirements here in B.(1)
19 apply to a new application for a new facility or to modify
20 an existing facility, under Rule 711.

21 EXAMINER JONES: B.(1) -- Mr. Domenici?

22 MR. DOMENICI: Yes, there is a third party
23 estimate, which -- it's an exhibit -- that's where the
24 \$82,000 came up. There were two estimates that were the
25 basis of the \$82,000 cost, a third-party estimate and an

1 OCD estimate that was 40- or 50-percent higher. That was
2 to accomplish exactly the closure that we're proposing.

3 So we are not proposing to modify the closure.
4 They have a third-party estimate already on record. There
5 was a higher OCD estimate that was made part of the permit
6 and continues to be part of the permit.

7 We are prepared possibly, if additional
8 conditions of closure are established, to consider how we
9 would estimate those costs. But none of those have been
10 established. We haven't heard any additional closure
11 conditions. The testimony, in fact, has been that there
12 will be less closure requirements by using a landfill, we
13 will close as we proceed.

14 So the testimony is that the bond is more than
15 sufficient.

16 (Off the record)

17 EXAMINER JONES: Mr. Feldewert?

18 MR. FELDEWERT: Yes. I'm sorry, I don't want to
19 interrupt. I had a point to make.

20 EXAMINER JONES: No, just go ahead, that's what
21 we were --

22 MR. FELDEWERT: That bond that they have on file,
23 Mr. Examiner, is to close a landfarming operation under the
24 1994 permit, hydrocarbon-contaminated soils, which are
25 remediated. That bond is for closing a landfarm.

1 What we're talking about here today is a facility
2 that is going to operate as a landfill. It is going to
3 accept all types of oilfield waste. That is a quantum leap
4 in both operations and closure costs for this type of
5 facility.

6 I don't think the Division -- It would surprise
7 me if the Division is taking the position that a landfarm
8 can convert to a landfill without having a different type
9 of closure plan and a different cost estimate. That, to
10 me, is an astonishing position to take. They have a bond
11 on file for a landfarm. If they're not changing that,
12 that's fine.

13 But they are proposing to operate a landfill
14 here. That is a major modification to their permit. Mr.
15 Martin testified that on March 25th. That is a quantum
16 leap. That is a fundamental change in their disposal
17 operations.

18 And accordingly, if -- they're required as part
19 of this Application to include a closure cost estimate and
20 a closure plan for dealing with the landfill -- not the
21 landfarm, the landfill. That's my point.

22 EXAMINER JONES: Okay, Mr. Domenici --

23 MR. DOMENICI: I would just --

24 EXAMINER JONES: -- can you elaborate on that
25 exhibit to show and also --

1 MR. DOMENICI: Yes, I would just suggest that
2 what we have is counsel testifying about a quantum leap and
3 all of this. I mean, the testimony is not that. So if
4 that's what they put on as their case, we should wait for
5 that. The testimony is the opposite, that this is a
6 landfarm permit.

7 And actually, the modification was suggested by
8 the OCD. If they were suggesting this was a this was a
9 quantum leap or some new type of operation, then allowing
10 and suggesting and requiring a modification is not the way
11 to go.

12 And we've treated this as a modification. We're
13 not expanding the footprint at all, we are going to
14 continue to operate a landfarm, and we want certain cells
15 that we will landfill salt-contaminated waste. It's
16 precisely what the Division asked us to do.

17 And there's no evidence that it will increase the
18 closure requirements. There's nothing in the record that
19 would show that.

20 So if they put that evidence on, we think we
21 should have a give and take at this hearing and allow our
22 witnesses to hear that, since the notice provides no data
23 on that, no information whatsoever.

24 There's nothing in the record before this hearing
25 saying that our closure plan is insufficient. There's

1 nothing from the Division, there's no comment from any
2 third party, and there's no prefiled testimony or statement
3 that says that we are inadequate. If that occurs during
4 this process, we're prepared to respond.

5 Otherwise, we're allowed, I think to put on our
6 witnesses and support our closure plan with the cost that
7 goes with it.

8 And particularly when we're modifying an existing
9 permit. This is not a new permit.

10 And we'll have a witness talk about that, and
11 we've already one talk about it, and we'll have another
12 one.

13 (Off the record)

14 EXAMINER JONES: We'll go ahead and take it under
15 advisement until you put on your case, Mr. Feldewert, and
16 then in the meantime let's break for lunch.

17 MR. FELDEWERT: Okay.

18 EXAMINER JONES: Come back at one o'clock.

19 (Thereupon, noon recess was taken at 11:45 a.m.)

20 (The following proceedings had at 1:12 p.m.)

21 EXAMINER JONES: Okay, let's go back on the
22 record.

23 And Mr. Domenici, I guess -- ready for the next
24 witness?

25 MR. DOMENICI: We call Pat Corser.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

PATRICK CORSER,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. DOMENICI:

Q. Will you state your name for the record, please?

A. Patrick Corser.

Q. And will you explain to the Hearing Examiner your educational background?

A. I have a bachelor of science degree in civil engineering and a master of science in geotechnical engineering.

Q. Are you a licensed or registered engineer?

A. I am.

Q. In what states?

A. New Mexico and probably about ten others. Do you want me to list them? I don't know if I know them all by heart.

Q. Colorado?

A. Colorado, New Mexico --

Q. Western states, primarily?

A. Yes.

Q. Describe your work history, if you will, please?

A. I've worked as a geotechnical engineer in the solid waste and waste disposal sector for municipal and

1 hazardous waste landfills, for the mining sector,
2 throughout North America and South America.

3 Q. For how long?

4 A. For the last 25 years.

5 Q. How many -- Roughly how many facilities have you
6 been involved in permitting or providing engineering
7 services on?

8 A. Oh, probably in the range of a dozen.

9 Q. So are these major projects, then?

10 A. Yes, I believe both major -- solid waste
11 landfills and hazardous waste landfills.

12 Q. And have you been successful in assisting your
13 clients in obtaining permits for solid waste or hazardous
14 waste landfills?

15 A. Yes.

16 Q. Could you list a couple of those for the Hearing
17 Examiner?

18 A. One of the most relevant might be the Triassic
19 Park facility, which received a permit, the Kettleman Hills
20 facility in California, the -- owned by waste management --
21 a waste management facility in Oregon, a permit revision
22 for the Highway 36 landfill in Colorado.

23 Q. And as part of your work on these permits,
24 describe what you do as far as geotechnical services.

25 A. Well, it's a combination of site characterization

1 work to understand foundation conditions, groundwater
2 conditions, as well as available soils that could be used
3 for construction of clay liners and clay covers, climatic
4 conditions to understand how the facility, the liners and
5 covers, will perform at that particular site.

6 Q. Are you involved in designing the cells or the
7 equivalent of cells in these type of facilities?

8 A. Yes, it's a primary role of the designer.

9 Q. And have you actually stamped plans to design a
10 facility?

11 A. Yes, I have.

12 Q. And do you design the closure -- closure
13 activity, closure plan?

14 A. That's normally part of a permit application.

15 Q. But as far as you personally, you --

16 A. Yes, I've been involved in all phases.

17 Q. Describe briefly your involvement in the Triassic
18 application and permit.

19 A. I was the overall project manager for preparing
20 the permit application, I was the certified engineer that
21 stamped the design drawings and the plans and the permit
22 application.

23 Q. And over what time period did you work on
24 Triassic?

25 A. It extended over quite a period from probably

1 1993 until it was approved.

2 Q. And approximately how many times have you been to
3 the location?

4 A. I believe I've been to the location twice.

5 MR. DOMENICI: I'd move Mr. Corser's admission as
6 a geotechnical engineer.

7 MR. FELDEWERT: As a geotechnical --

8 MR. DOMENICI: Geotechnical --

9 MR. FELDEWERT: -- engineer?

10 MR. DOMENICI: -- engineer, expert.

11 MR. FELDEWERT: I have no objection to his
12 admission as a geotechnical engineer.

13 (Off the record)

14 EXAMINER JONES: Does any other parties have an
15 objection?

16 DR. NEEPER: No objection.

17 MS. MacQUESTEN: (Shakes head)

18 EXAMINER JONES: Okay, Mr. Corser, how do you
19 spell your last name?

20 THE WITNESS: C-o-r-s-e-r.

21 EXAMINER JONES: Mr. Corser is qualified as an
22 expert geotechnical engineer.

23 MR. DOMENICI: Thank you.

24 Q. (By Mr. Domenici) Mr. Corser, you've been here
25 this morning, you've heard the testimony so far, correct?

1 A. Yes.

2 Q. And one of the issues -- Well, first of all, what
3 was your involvement with Stoller -- Stoller, Incorporated,
4 and Jim Bonner during your work on the Triassic project?

5 A. The company I work for, MWH, was contracted to
6 the Gandy Marley Corporation to prepare the permit
7 application and the engineering designs.

8 The Stoller Corporation was contracted to the
9 Gandy Marley Corporation, not through us, to provide site-
10 characterization services, drilling, sampling and testing
11 services.

12 Q. And so did you have to interface with them?

13 A. We interfaced quite a bit, on a regular basis.

14 Q. And are you familiar with the work that they
15 performed on the Triassic project?

16 A. Yes.

17 Q. And in particular, are you familiar with the work
18 Mr. Bonner performed?

19 A. Yes, I am.

20 Q. Was he the lead geologist or -- I don't know if
21 he's geotechnical, but geological investigator for Stoller?

22 A. Yes, that was my understanding.

23 Q. Let me turn your attention to this project. Were
24 you involved in the application -- any of the applications
25 that were discussed this morning for a landfarm by Gandy

1 Marley, Inc.?

2 A. No, I was not.

3 Q. And when did you first become involved in this
4 modification process?

5 A. I was notified a couple of weeks ago, maybe three
6 weeks ago, and that's when I became involved.

7 Q. And one of the issues that came up this morning
8 was -- and I'll turn your attention to Exhibit 1, if I
9 could --

10 A. Yes.

11 Q. -- and in particular, looking at page 6 of
12 Exhibit 1, page number 6, there's a number 6 at the
13 bottom --

14 A. Right.

15 Q. -- with Roman numeral XI, "Site Characteristics".
16 And in that section it talks about, "This information was
17 obtained from geologic data from a subsurface drilling
18 program conducted in the region in July 1994." Do you see
19 that statement?

20 A. Yes.

21 Q. Do you recall that subsurface drilling program?

22 A. Yes, I do.

23 Q. And is participation and review of the results of
24 subsurface drilling programs part of the regular work you
25 do as a geotechnical engineer?

1 A. Yes.

2 Q. And let me ask you to look at Exhibits 2 and 3,
3 and I think you've had an opportunity to compare these.
4 Are these essentially identical except for the cover page,
5 as far as you can tell?

6 A. I can't say they're identical, but I believe one
7 is the final version of the draft.

8 Q. And so the draft was -- indicates it was prepared
9 by James Bonner of Stoller Corporation, and the final
10 report is signed by -- or is -- simply has "Stoller
11 Corporation" on it, right?

12 A. Yes.

13 Q. Do these -- I'm going to just go with Exhibit 3
14 then, as the final report. Does Exhibit 3 provide the
15 results of some of the subsurface drilling activities that
16 took place as described in Exhibit 1, in July of 1994?

17 A. Yes, it does.

18 Q. And do those -- does the work described in
19 Exhibit 3 support the statements regarding the site
20 characteristics in Exhibit 1?

21 MR. FELDEWERT: Let me object on the grounds of
22 -- Can you clarify what site we're talking about?

23 MR. DOMENICI: The landfarm site --

24 MR. FELDEWERT: Okay.

25 MR. FELDEWERT: -- which is the site discussed in

1 Exhibit 1.

2 THE WITNESS: Exhibit 3 provides a general
3 geologic characterization of the project area, which would
4 include both the Triassic Park facility as well as the
5 landfarm facility. I believe it makes statements and
6 characterizes conditions that would be applicable to both
7 sites.

8 Q. (By Mr. Domenici) Could you identify some of
9 those statements out of Exhibit 3?

10 A. First of all, in Exhibit 3, Figure 10 shows where
11 the investigations took place in July of 1993. There's a
12 section that covers Sections 4, 5, 8 and 9, which I believe
13 is in the area of the proposed landfarm facility.

14 On page 16, Section 4.2, it describes the July,
15 1993, air rotary drilling program, discusses that the
16 program included investigations in large areas in Sections
17 4, 5, 8 and 9. It then goes on to describe the materials
18 that were encountered. It describes that there were thick
19 sequences of low-permeability Triassic clays that were
20 encountered, "the thickness of the overlying Quaternary
21 alluvium ranged from 15 to 35 feet." In Sections 5 and 8,
22 the Triassic sandstones were observed underlying the
23 alluvium.

24 Those are, I think, some of the relative -- or
25 relevant statements in this report that would be applicable

1 to the landfarm facility.

2 Q. What information out of this report provides
3 useful information for the landfarm site characteristics
4 regarding the nature of the stratigraphy beneath the
5 landfarm site?

6 A. There's a discussion in Section 2 on regional
7 geologic setting, which discusses the Triassic Park
8 sediments as a whole in the region, and that's -- the
9 region being the general part of New Mexico that they fall
10 within.

11 There's another section, 3, which is the local
12 geologic setting, which again discusses Triassic sediments
13 in a more localized area, which is represented by Figure 5,
14 which includes the area to the north of the Triassic Park
15 facility up in the area of Section 4, 5, 8 and 9, as well
16 as at the Triassic Park facility.

17 It discusses the groundwater potential within the
18 Triassic sediments in Section 3.5.

19 And Section 4 discusses the investigation which,
20 as I just mentioned, covered parts of the area that cover
21 the landfarm facility.

22 Q. Will you look at Figure 7, please?

23 A. Yes.

24 Q. Explain what Figure 7 depicts, relative to both
25 the Triassic -- proposed Triassic location, as well as the

1 landfarm facility.

2 A. First, I think we have to go back and look at
3 Figure 5, which shows the location of that cross-section.
4 It's an east-west cross-section running through the caprock
5 and the zone below the caprock. It runs through Sections
6 18, 17 and 16, which is north of the Triassic Park facility
7 and south of the proposed landfarm facility.

8 That section is represented on Figure 7 and shows
9 the Ogallala unit overlying the Triassic Park redbeds. It
10 indicates where the Mescalero Rim is located and where the
11 alluvial deposits are located. I believe this is
12 representative of the regional area, which would include
13 both the Triassic Park facility and the landfarm facility.

14 Q. In your opinion, based on this report, what is
15 the nature of the Triassic sediments beneath the landfarm?

16 A. Well, they're -- from an engineering standpoint,
17 they're a low-permeability unit. My understanding is,
18 they're divided into two zones, the upper and lower Dockum.
19 The upper Dockum is a little bit more variable unit,
20 consisting of claystones, siltstones and sandstones. The
21 lower Dockum unit is a more homogeneous material,
22 consisting more of lower permeability claystones and
23 mudstones.

24 But I believe Bill can probably comment on that
25 in more detail than I. I looked at it primarily from an

1 engineering standpoint.

2 MR. DOMENICI: And -- I would move Exhibit 3 into
3 evidence.

4 MR. FELDEWERT: Subject to -- I have no
5 objection.

6 EXAMINER JONES: Exhibit 3 will be admitted.

7 MR. DOMENICI: And I'd also move Exhibit 2.

8 MR. FELDEWERT: The only difference is the fact
9 that it's a draft.

10 MR. DOMENICI: Well, Mr. Bonner is a witness, and
11 I want to show, since he is the...

12 MR. FELDEWERT: Well, I would suggest maybe we
13 wait until the time when -- because you haven't gone over
14 -- I'm sorry, you haven't gone over Exhibit 2 with the
15 witness, and he said he wasn't -- he didn't have a chance
16 to compare the two, so --

17 MR. DOMENICI: Okay, I'll wait.

18 MR. FELDEWERT: Okay.

19 Q. (By Mr. Domenici) In addition to the information
20 reported in Exhibit 3, are you familiar with other
21 information regarding the subsurface at both the Triassic
22 and the landfarm locations?

23 A. There were subsequent investigations related to
24 the Triassic Park facility that were conducted after 1994.

25 Q. And as a result of those investigations and the

1 earlier work, what's your understanding regarding the
2 status of perched water beneath the landfarm location?

3 MR. FELDEWERT: Well, I'm going to object. I
4 object on the grounds that there's no testimony that they
5 examined the subsurface geology under the landfarm. His
6 testimony has been that they examined the subsurface
7 geology under the Triassic Park area.

8 MR. APODACA: Mr. Domenici, care to respond?

9 MR. DOMENICI: Well, I don't think my question
10 asked him to examine it -- if he examined it. I asked what
11 his understanding was of the status of the perched aquifer.
12 So it must --

13 MR. APODACA: How would he gain that
14 understanding without some type of examination?

15 MR. DOMENICI: Well, I'll go ahead and lay a
16 foundation.

17 MR. APODACA: Please.

18 Q. (By Mr. Domenici) Do you have information that
19 gives you an understanding of the groundwater beneath the
20 -- at least some understanding of the groundwater beneath
21 the landfarm location?

22 A. On a regional basis, yes.

23 Q. And describe that information.

24 A. The information that's represented in here, as
25 well as subsequent drilling or additional drilling, has

1 indicated that there is a perched aquifer between the upper
2 and lower Dockum that runs from the Ogallala formation. It
3 tapers out as you go to the west, and the Triassic Park
4 facility is outside of that zone of perched water. The
5 landfarm facility is inside that zone of perched water.

6 Q. And in making that conclusion, can you indicate
7 -- is there well data that you relied on, or opinions of
8 other geologist, or how did you come to make that
9 statement?

10 A. Well, as part of the characterization work for
11 the GMI, for the Triassic Park facility, we looked at the
12 extent of that perched zone to define where it was, related
13 to the Triassic Park facility. As part of that
14 characterization, it was delineated to extend to the north,
15 up in the area of the landfarm facility. I believe that's
16 represented by WW-1 and two of the PB holes.

17 Q. Based on your understanding of that -- or based
18 on your information about that perched aquifer, what is
19 your understanding of the characteristics of that perched
20 aquifer?

21 A. Well, there's one hole that was discussed earlier
22 this morning, PB-14, that was not drilled on the landfarm
23 facility but was drilled near the Triassic Park facility,
24 but it was one hole that encountered water within the upper
25 Dockum unit -- not in the lower Dockum unit, but the upper

1 Dockum unit -- and that, I believe, is the closest water
2 that would represent -- that was sampled and analyzed, that
3 would represent perched water.

4 Q. And what was the approximate depth of that?

5 A. My recollection is, it was in the range of 100
6 feet, or -- it may have been less than that, I don't recall
7 the exact depth.

8 Q. What is your understanding as to where that
9 perched water comes from?

10 A. The general regional perched aquifer, I believe,
11 originates from the Ogallala Aquifer. It flows down into
12 the Triassic Park sediments, through the alluvial deposits,
13 and perches between the upper Dockum and lower Dockum.

14 Q. And when you say "perched", what do you mean by
15 that as a geotechnical engineer?

16 A. "Perched" would mean that there's an unsaturated
17 zone below that.

18 Q. And what is your understanding as to the extent
19 that this perched aquifer is connected with other
20 groundwater?

21 A. Well, by the fact that it's perched, and by
22 definition there's unsaturated material below it, there's
23 not a direct communication between that aquifer and a lower
24 aquifer.

25 Q. And what about lateral movement of water in that

1 perched aquifer?

2 A. Well, the characterization work that had been
3 done today would indicate that that perched aquifer tapers
4 out and disappears, or the extent of it is limited to the
5 western end of the area we're talking about. So it just
6 tapers out and diminishes.

7 Q. Do you have an understanding as to over what
8 period of time that perched aquifer has accumulated?

9 A. It's better for a geologist to answer that, it's
10 geologic time.

11 Q. Are you familiar with the results of the two
12 wells that were drilled recently?

13 A. Yes, I've briefly reviewed the report.

14 Q. And do you have an opinion whether the water
15 identified in those wells is the perched aquifer you've
16 been talking about?

17 A. It would appear to me that that is the perched
18 aquifer we're talking about.

19 Q. I want to ask you a couple questions about that
20 water, based on your involvement with the site.

21 First of all, is that water -- does that water --
22 that perched water beneath the landfarm, does it have a
23 gradient? Is it flowing in any direction, to your
24 knowledge?

25 A. From the two holes that were drilled, I couldn't

1 say. From a regional geologic interpretation, I would say
2 it's flowing to the west.

3 Q. And I think it was your testimony that it ends to
4 the west --

5 A. That's correct.

6 Q. -- it discontinues.

7 How far does it end to the west? Somewhere
8 between the landfarm and the Triassic facility?

9 A. Yes, those two facilities are separated north and
10 south by quite a distance, but it's laterally somewhere
11 between those two, correct.

12 Q. So --

13 A. Now, I should clarify. When I talk about the
14 flow direction, it's over a fairly limited area right where
15 this water seeps down from the caprock.

16 More regionally, the water that infiltrates from
17 the Ogallala formation flows to the east, according to the
18 structural dip of the Triassic beds, so that there is a bit
19 of a divide where the majority of it flows to the east but
20 there's a small portion of it that flows to the west and
21 then tapers out.

22 Q. Okay, this would be part of the small portion
23 that goes to the west, and then it discontinues --

24 A. That's correct.

25 Q. -- a short distance to the west of the landfarm?

1 A. (Nods)

2 Q. Are you familiar with the proposed design for the
3 landfill cells?

4 A. Yes.

5 Q. Has an engineer -- is that design -- Or actually,
6 describe what that design is from the engineering
7 standpoint.

8 A. The design consists of building cells by
9 excavating down into -- excavating the cell, using some of
10 that material to build berms around the perimeter of the
11 cell, stockpiling some of the excavated soil, placing a
12 clay liner over the floor of the landfill and the
13 sideslopes of the landfill, at least on three sides,
14 leaving the fourth side open to allow future expansion and
15 extension of the cell.

16 Waste would be brought in, driven down to the
17 base of the cell, placed on the clay liner in the base of
18 the cell and dozed up around the sides of the landfill
19 cell. It would be covered on a regular basis.

20 Q. Based on your knowledge of the landfill design,
21 as well as the geology beneath the landfarm, do you have an
22 opinion as to whether or not this facility would adversely
23 affect -- or adversely impact fresh water?

24 A. I think there are three factors that would
25 prevent impact to freshwater.

1 One is, we're located in an arid climate where
2 the net evaporation is greater than the net infiltration.

3 Two, I believe there are low-permeability
4 sediments beneath the facility, which would retard any
5 seepage out of the facility.

6 And third, there's a commitment to place a clay
7 liner in the facility for added containment to protect
8 fresh water.

9 Q. Based on the results of the two recent wells,
10 along with Mr. Marley's testimony, do you agree that there
11 is no beneficial use of the water that's been encountered
12 in the two recently drilled wells?

13 A. I'm not really a water-use expert, I don't know
14 if I can really comment on that. But the flow rates, to
15 me, were quite low.

16 Q. And what about the quality?

17 A. It appeared to be not suitable for drinking.

18 Q. But even if this perched water were considered
19 fresh water, is it your testimony that the design, the
20 landfill design, along with the other conditions you just
21 described, would be protective of that resource?

22 A. Yes, there's a commitment to put a liner in.

23 Q. I think you testified that on other projects you
24 work with closure planning.

25 A. Yes.

1 Q. What is your understanding of how the closure
2 plan would operate at this facility where there's a mix of
3 landfarm cells and landfill cells?

4 A. Right, the facility's closure plan for the
5 landfarm component is to remediate the soils to acceptable
6 levels and then to cover the landfill cells with the berms
7 that are placed around them.

8 The landfill cells will have a different closure
9 plan. They will be excavated and, as I indicated, the
10 soils will be stockpiled around the perimeter of the
11 facility, and waste will be placed in the facility up to
12 its final design grade. And then as the landfill is
13 filled, the cover will be constructed as filling
14 progresses.

15 So the actual excavation face and the liner face
16 and the filling face will all be migrating together,
17 simultaneously, and the cover construction will take place
18 at the same time in a sequential manner. So closure will
19 be completed during operations over a majority of the cell,
20 leaving only a fairly small operating window that would be
21 required to be closed at final closure.

22 Q. What's your understanding as to how that would be
23 accomplished?

24 A. The excess soils that will be stockpiled around
25 the perimeter of the cell will be used to place the two-

1 foot cover that's planned as the cover for the landfill
2 cells. There should be an ample amount of excess soil,
3 because we'll be excavating out to below grade, to build
4 the facility, so that soil will be available to be used as
5 cover soil.

6 Q. Do you have an opinion as to whether or not the
7 plan you just described is sufficient to close the facility
8 in a way that will protect public health and the
9 environment?

10 A. Yes, I believe so. The cover that's planned is a
11 water-balance-type cover, an evapotranspiration cover. I
12 believe that's superior to a compacted clay cover, which in
13 an arid climate has a tendency to dry out and crack. The
14 cracks are sufficient in a clay cover that they won't heal
15 when you do get a rainfall event. There's quite a bit of
16 documented history on clay covers not performing well in
17 arid climates.

18 The material that will be used for this cover
19 will be the excavated soil. A large portion of that will
20 be alluvial material, which is a more well-graded material.
21 It's not as clay-rich and would have less of a tendency --
22 more of a tendency to act as an evapotranspiration cover
23 than pure clay.

24 Q. And do you have an opinion as to whether or not
25 the closure that you described would require a change in

1 the closure cost estimate that is part of the -- that is
2 bonded -- the basis of a bond in the current permit?

3 MR. FELDEWERT: Objection, lack of foundation.
4 He hasn't testified he's familiar with what third-party
5 contractors would require, what type of closure that they
6 described.

7 MR. APODACA: Mr. Domenici, do you want to
8 respond or --

9 MR. DOMENICI: Well, I don't want to do it in
10 terms of third parties. I'll just rephrase the question.

11 MR. APODACA: Okay than.

12 Q. (By Mr. Domenici) In terms of the activities
13 required for the closure that was described, that you've
14 described, does that require more or less activities than
15 the closure plan for the landfarm?

16 A. Well, the current closure plan for the landfarm,
17 the two largest components of that would be the sampling of
18 the subgrade below the landfarm cells, sampling and
19 analysis, and the ongoing soil disking and working of that
20 soil for two years after closure. Those are the two
21 largest components of the existing closure plan.

22 And those components would actually be reduced
23 with the plan that's being proposed in the permit
24 modification to build cells, excavate them and place the
25 cover as the cell is being filled.

1 Q. So it's your testimony that the two largest cost
2 components of the current closure plan would be reduced?

3 A. Yes.

4 Q. And the footprint for the amount of closure that
5 would take place, would that also be reduced?

6 A. The overall footprint would not, just the
7 division between what's closed as a landfarm and what's
8 closed as a landfill cell.

9 Q. And the landfill -- the ones that are on the
10 landfill side would be largely closed during --

11 A. -- during operations, that's correct.

12 Q. -- operations.

13 Have you had an opportunity to look at the report
14 of monitoring from beneath the landfarm cells, soil
15 monitoring report?

16 A. Yes, I believe that's the January report on
17 sampling of the remediated soils and the foundation soils.

18 MR. DOMENICI: What are we up to?

19 MS. HOLLINGSWORTH: 19 [sic].

20 Q. (By Mr. Domenici) Let me hand you Exhibit 19 and
21 ask if that is the report.

22 A. Yes.

23 Q. Does the information in this confirm your earlier
24 opinion that your proposed design is protective of
25 groundwater resources?

1 MR. FELDEWERT: Wait a minute, I'm going to have
2 to object on the grounds that this report deals with --
3 whether it exists in landfarm operations has been -- have
4 been -- or what the effect of it has been on existing
5 landfarm operations. It has nothing to do with the
6 proposed landfill Application.

7 MR. APODACA: Before we address that, I believe
8 there was a Gandy Marley 19 --

9 MR. DOMENICI: Okay.

10 MR. APODACA: -- so this would actually be 20.
11 And your response, Mr. Domenici?

12 MR. DOMENICI: I'll let the -- I'll ask the --
13 rephrase the question and ask the witness.

14 Q. (By Mr. Domenici) Is there information in this
15 report that would be of assistance to you in determining
16 the effectiveness of the landfill, proposed landfill
17 design?

18 A. Yes, I indicated earlier that this site is
19 located in a net-evaporating site; there's more evaporation
20 than infiltration. The results in this report and the
21 conclusions indicate, "The vadose zone beneath the facility
22 has been adequately monitored by the subsurface soil
23 samples connected [sic] beneath..." the facility "...each
24 cell in compliance with WQCC Regulation 3107. There has
25 been no leaching of contaminated media into the vadose zone

1 beneath the remediation cells."

2 Q. Where are you reading from?

3 A. Oh, I'm sorry, I'm reading from -- I don't know
4 what the page is, but it's section -- Roman numeral II,
5 "Summary and Conclusions" to the report.

6 That to me would confirm that there has not been
7 infiltration from the material within the landfarm cells.

8 Q. And why would that help in your analysis of the
9 possible impact on the landfill activities we have -- could
10 have, on the subsurface?

11 A. Well, again, I think it just confirms that there
12 is very little potential for infiltration at the site.

13 Q. What is your understanding as to the length of
14 time those cells that are subject to this monitoring have
15 been exposed to salt-contaminated wastes?

16 A. I guess I'm not exactly certain when and where
17 salt-contaminated wastes went or started taking it, but I
18 know this facility has been in operation for close to 10
19 years.

20 Q. And did the test -- did this sampling analysis
21 test to see how salt constituents have leached in these
22 conditions?

23 A. I believe it tested a wide range of parameters.
24 I've not analyzed the complete sweep of analyses, I've
25 relied quite a bit on the summary and conclusions in the

1 report itself.

2 Q. Do the salts in the landfarm material -- do they
3 degrade or evaporate in landfarming activities?

4 A. No, I don't believe so. They're an inorganic
5 material which is not going to volatilize and reduce in
6 concentration due to disking or working. They're going to
7 remain.

8 Q. So to go back to my original question, does this
9 report assist in confirming your opinion that the proposed
10 landfill cell design and the subsurface that it will be
11 placed on is protective of the water resources?

12 A. Yes, I think it supports that.

13 MR. DOMENICI: Can I have one second, Mr. Hearing
14 Examiner?

15 (Off the record)

16 MR. DOMENICI: That's all I have for this
17 witness.

18 CROSS-EXAMINATION

19 BY MR. FELDEWERT:

20 Q. Mr. Corser, right?

21 A. Yes, that's correct, sir.

22 Q. Excuse me, I have a cold so --

23 A. No problem.

24 Q. -- if you don't understand a question, let me
25 know.

1 A. No problem.

2 Q. You indicated that you thought this report was
3 supportive of any conclusion that the landfill operations
4 that Gandy Marley is proposing will not adversely affect
5 what you called the perched aquifer beneath his facility?
6 Did I understand that to be your opinion?

7 A. Yes.

8 Q. Can you show -- other than the fact that they
9 have not -- Well, let me ask you this. What aspect of your
10 report, other than the summary and conclusion on -- in .2,
11 would support your opinion?

12 A. Again, I have not reviewed the tables in detail.
13 I have relied on the professional opinion of the author.

14 Q. So you're just relying upon the summary and
15 conclusion?

16 A. That's correct.

17 Q. Okay. And does the summary and conclusion give
18 you any indication of what the initial salt concentration
19 was below the facility, before they started landfarming
20 operations?

21 A. No, it doesn't.

22 Q. So how can you gauge how much salt the
23 landfarming operations added to the facility without
24 knowing the baseline?

25 A. Well, because the conclusion would indicate that

1 there has been leaching of contaminated -- into the vadose
2 zone beneath the remediation cells.

3 Q. So you're just relying upon the -- you don't have
4 your own independent conclusion that you're relying upon,
5 you're just relying upon the statement in this report that
6 there's been no leaching?

7 A. That's correct.

8 Q. Have you -- I think you've testified you haven't
9 done any investigation into the results or the analysis
10 that would support the conclusion by this author?

11 A. That's correct.

12 Q. And you also don't know how much salt was
13 deposited at the facility over the last 10 years?

14 A. No, I don't know how much salt was deposited.

15 Q. Now wouldn't -- Before you would permit this
16 facility, Mr. Corser --

17 A. Uh-huh.

18 Q. -- wouldn't you want to have more information
19 about the effect that the landfill operations could have on
20 this facility, other than the conclusion on one page of
21 this report?

22 A. Yes.

23 Q. Okay, now, closure plans. You've dealt with
24 closure plans before?

25 A. Yes.

1 Q. For landfills?

2 A. That's correct.

3 Q. Landfills here in New Mexico?

4 A. Yes.

5 Q. Which -- Have you dealt with them with respect to
6 the landfills that are permitted by the New Mexico
7 Environment Department?

8 A. Yes.

9 Q. Now, I want you to look at Exhibit Number -- 1,
10 I believe. Hold on one second. No, I'm sorry. I want you
11 to take a look at the application -- Have you reviewed the
12 Application that was filed by Mr. Marley in this -- or
13 Gandy Marley in this case?

14 A. Yes.

15 Q. And that is Exhibit Number 5, correct?

16 A. Yes.

17 Q. Can you take us to the description of the closure
18 plan in this Application?

19 A. Section X, or Roman numeral X.

20 Q. And that's on the third page in, correct?

21 A. Yes.

22 Q. Okay. Now, it's a one-paragraph provision --

23 A. Uh-huh.

24 Q. -- and describe various things that they intend
25 to do. If you were in charge of putting this Application

1 together, Mr. Corser, would you submit an application that
2 would have one paragraph like this in it, or would you
3 require -- would you have more detail about your closure
4 plan?

5 A. The closure plans that I've prepared have had
6 more detail, but they've been for RCRA facilities. This is
7 not a RCRA facility.

8 Q. Are you familiar with the waste streams that are
9 generated in the oilfield?

10 A. No, I can't say that I am.

11 Q. Okay, do you know the constituents of the waste
12 streams that are generated in the oilfield?

13 A. In a general sense, but not specifics.

14 Q. Are you aware of the fact that these waste
15 streams would normally be -- would be characterized as
16 hazardous waste, absent the exemption that Congress has
17 given to the oil and gas industry?

18 A. Yes.

19 Q. So would you agree with me that the waste streams
20 that are -- go into this proposed facility, are similar to
21 the waste streams that would go into a RCRA NMED facility,
22 in terms of characteristics?

23 A. Yes.

24 Q. Okay, and in terms of the effect that they could
25 have on the public health and environment, it would be

1 similar, would it not?

2 A. Could be.

3 Q. Okay. And so if you were preparing a closure
4 plan for a landfill that was going to accept oil and gas
5 waste that is similar to the waste that is taken by a RCRA
6 facility --

7 A. Uh-huh.

8 Q. -- you would have a more detailed closure plan,
9 would you not?

10 A. Not necessarily. It's not up to me to decide the
11 requirements, regulatory requirements, for different types
12 of wastes.

13 Q. That's fair. But if you were submitting an
14 application, it would have more detail than what's in here?

15 A. I would look at the guidance put out by ODC [*sic*]
16 as to what's required for design, operation and closure --

17 Q. Okay.

18 A. -- and use that as a guidance.

19 Q. All right. Now, you mentioned that activities
20 for closure -- Well, let me back up.

21 You were asked a question about the activities
22 for closure of landfarms and then landfills; do you recall
23 that?

24 A. That's correct.

25 Q. Okay. And I wrote down what you said about

1 landfarms, and that would be, in this case there's going to
2 be sampling and then soil disking for two years?

3 A. Yes.

4 Q. All right. I didn't hear what activities would
5 be necessary for closure of the landfill. Can you explain
6 that to us, please?

7 A. Yes. Well, as I described, the facility is
8 excavated, it's lined on three sides with a clay liner,
9 waste would be brought into the base of the facility,
10 placed and dozed up on the side slopes, and that would be
11 brought up to a level consistent with the elevation of the
12 final closure, the final topography, and then that would
13 extend in the direction the cell is being excavated and
14 lined and filled.

15 While that is occurring, the excess soil that's
16 used from the excavation is placed over the waste, the two-
17 foot-thick layer, and it's re-vegetated as it's
18 constructed. So the closure -- a major part of the closure
19 is ongoing during operations.

20 Q. If someone walked away from this facility --
21 which is what we have to be worried about in New Mexico, do
22 we not? Isn't that what a closure plan is all about, in
23 case things -- in case people walk away from the facility
24 and leave it open and the State has to close it?

25 A. Uh-huh.

1 MR. DOMENICI: Let me object to that --

2 Q. (By Mr. Feldewert) A facility such as this --

3 MR. DOMENICI: Can I make an objection for the
4 record?

5 MR. FELDEWERT: I'm sorry.

6 MR. DOMENICI: That mischaracterizes the regs and
7 the guidelines both.

8 MR. APODACA: Proceed.

9 Q. (By Mr. Feldewert) What type of -- Let me strike
10 that.

11 If you were -- as they close this facility during
12 -- you described what they were going to do during normal
13 operations of this facility, correct? How they were going
14 to take the waste and gradually place the waste in it and
15 move forward?

16 A. Correct.

17 Q. When -- At the end of the day, when they're
18 finished, how do you close this facility? How do you close
19 these landfills?

20 A. Well, at the end of the day they have the
21 operating zone where they've just been filling. It's
22 probably a fairly limited area, maybe a hundred feet wide,
23 I think, as Bill indicated. That would be the area that
24 they would have to doze the stockpiled soil that's
25 available around the perimeter over that to form the two

1 feet -- two-foot cap.

2 Again, I believe there's probably going to be an
3 excess of soil, because they're excavating out quite a bit
4 to make room for the waste. So I think there should be
5 ample soil on the site to build this cover.

6 Q. What's the final design grade on the cover?

7 A. It hasn't been specified. It's sloped to drain,
8 so there's no ponding.

9 Q. But we don't -- at this point in time, we don't
10 know what that slope is going to be or how it's going to be
11 effectuated, right?

12 A. That's correct.

13 Q. And we don't know the costs that are involved in
14 that, do we?

15 A. The costs with sloping it?

16 Q. Yeah.

17 A. Well, the slope would be achieved as part of the
18 filling plan. In the cross-section that's shown in the
19 Application, you can see the general configuration, and
20 waste would be filled up to that contour, that
21 configuration, as we're filling it. So it would be an
22 operational cost.

23 Q. Did -- well, let's see if I have any more
24 questions about -- Now, you indicated that there was a -- I
25 think your words were, a perched aquifer beneath the

1 facility --

2 A. Yes.

3 Q. -- and that -- you mentioned a well, PB-14, which
4 you thought represented the perched water below this
5 facility?

6 A. Yes.

7 Q. Okay, is that the one that had the 4920 TDS
8 reading?

9 A. I don't have that in front of me, but it's the
10 one that was represented by W-3 in the permit application.

11 Q. Okay, and I think your testimony has been that
12 that's the one that was in the shallower formation?

13 A. That's correct.

14 Q. And according to your testimony, you think that
15 that water is coming from the Ogallala, this perched water?

16 A. Or surface infiltration. It could be either.

17 Q. Okay. Now, the perched aquifer that's beneath
18 this landfarm, do you know what the depth is to that
19 perched aquifer?

20 A. Well, I believe the two wells that have been
21 recently drilled provide the best information, and I think
22 Bill will talk to that in more detail than I can.

23 Q. Maybe it was about 120 feet? Is that your
24 recollection? You've looked at those results, right?

25 A. I've looked at those in general, and I thought it

1 was closer to 130 or 140 feet, but again, I'm -- Bill is
2 the appropriate person. He was there and logged them.

3 Q. And the -- Is it your testimony that you believe
4 that there is an impermeable barrier between the landfarm
5 operations and this perched aquifer beneath the facility?

6 A. Well, I don't believe -- my personal opinion is,
7 there's nothing that's impermeable; it's just a degree of
8 permeability. I believe there are low-permeability
9 sediments beneath the facility that will retard any
10 migration to that aquifer and will protect it.

11 Q. Now, what do you base that conclusion on?

12 A. On the regional characterization that was done as
13 part of the Triassic Park facility.

14 Q. That's this Exhibit Number 3?

15 A. Yes, in part, as well as other work that was done
16 to support that characterization of the upper and lower
17 Dockum units.

18 Q. Okay. What I'm trying to figure out in Exhibit
19 Number 3, you identified on page 16 of that exhibit
20 statements that were specific to this site. When I say
21 "site", I mean the proposed landfarm -- or the proposed
22 landfill, right?

23 A. That's correct.

24 Q. Okay. And is that the only evidence -- is that
25 the only information in this entire report that is specific

1 to the soil below the site of the proposed landfill?

2 A. That's in this report, yes, I believe so.

3 Q. Okay. And this report on page 16, looking at
4 paragraph 4.2, indicates that the information was obtained
5 from an average depth of this drilling, was 40 -- I assume
6 40 feet, right?

7 A. That's what it says -- Yeah, I would assume 40
8 feet as well.

9 Q. So they only went down 40 feet?

10 A. Uh-huh.

11 Q. Okay. And it says in the fourth paragraph, right
12 above 4.3 --

13 A. Yes.

14 Q. -- it says, "The favorability criteria were not
15 met in these areas."

16 A. Yes.

17 Q. What does that mean?

18 A. Well, if you look in the Section 4.0, two pages
19 before that, the second paragraph indicates that there was
20 a set of site characterization criteria that was developed
21 for the Triassic Park facility, which included three
22 components: depth to the Triassic sediments of less than 10
23 feet, minimum thickness of 50 feet of low-permeability
24 Triassic clays, and several hundred feet of separation of
25 potential Triassic host clays from the groundwater table.

1 That was what was established for the Triassic
2 Park facility, a totally different facility. Not all those
3 criteria were met at this site. That's why other sites
4 were investigated for location of the Triassic Park
5 facility.

6 Q. So this site did not qualify as an area that was
7 suitable to accept hazardous wastes, right?

8 A. Under the Subtitle C regulations, it didn't meet
9 the criteria we had established to site a Subtitle C
10 landfill.

11 Q. Okay. And this is a site now that they propose
12 to accept oil and gas field waste in a landfill format --

13 A. Uh-huh.

14 Q. -- that is similar in constituents to hazardous
15 waste, correct?

16 A. It may have some similar constituents. I can't
17 testify to that.

18 Q. So that according to this report, then, there is
19 not a natural barrier below this facility that would make
20 it suitable to accept these types of dangerous waste,
21 correct?

22 A. No.

23 Q. That's not what this report says?

24 A. No, I don't believe so. I believe the report
25 says -- in that paragraph just above 4.3 on page 18 it

1 says, "The favorability criteria were not met in these
2 areas."

3 Q. Uh-huh.

4 A. The criteria that we'd established for siting
5 this Subtitle C landfill. "While there were thick
6 sequences of low permeability Triassic clays encountered,
7 the thickness of the overlying..." alluvial sediments
8 ranged from 15 to 35 feet.

9 So I believe this does indicate there are low-
10 permeability units below this site.

11 Q. Okay, there's low permeability units --

12 A. Correct.

13 Q. -- but it's not continuous across this site?

14 A. No, I wouldn't say it's not continuous.

15 Q. We don't know whether it's continuous or not?

16 A. Well, I think Bill can talk to the two holes that
17 were drilled there and talk more about how continuous it
18 is. But regional --

19 Q. This is a much more in-depth study of that site
20 than the two holes that they drilled, right? I mean, you
21 guys --

22 A. This was --

23 Q. -- went out and carefully reviewed this site?

24 A. We reviewed it from a preliminary screening
25 standpoint. We looked at different sites to find the best

1 area to site the Triassic Park facility.

2 Q. And this area, based on your --

3 A. Right.

4 Q. -- in-depth study --

5 A. Right.

6 Q. -- did not meet the criteria that you put in

7 place for a hazardous waste site?

8 A. That's correct.

9 Q. And if you look on page 12 of this report, Figure

10 7 --

11 A. Yes.

12 Q. -- it shows an alluvium area --

13 A. Yes.

14 Q. -- and it shows Triassic redbeds?

15 A. Yes.

16 Q. Okay. Now, the area below this site, between the

17 -- below the landfill, between the surface and the perched

18 aquifer, that area that we're talking about there would be

19 part of this alluvium, would it not?

20 A. I'm sorry, could you repeat that again?

21 Q. We're talking about the landfarm site --

22 A. Correct.

23 Q. -- okay? And we're talking about the area

24 between the surface of the landfarm and where this perched

25 aquifer is located --

1 A. Uh-huh.

2 Q. Right?

3 A. Uh-huh.

4 Q. That are falls within this alluvium section on
5 this diagram?

6 A. That's correct.

7 Q. It's above the redbeds?

8 A. That's correct.

9 Q. Okay. The Triassic Park site, in contrast, sits
10 directly on those Triassic redbeds, does it not?

11 A. The Triassic Park site is founded in the lower
12 Dockum unit, the side slopes are in the upper Dockum unit.

13 Q. The bottom of it is on the redbeds?

14 A. Yes, the lower portion of the redbeds.

15 Q. Okay.

16 A. Those, I believe, are divided into two sections,
17 upper Dockum and lower Dockum.

18 Q. So you don't know -- there's not below this site,
19 below this landfarm site -- okay? -- between the surface
20 and that perched aquifer, we do not have a Jurassic [*sic*]
21 redbed scenario?

22 A. That unit is below the facility. Bill can give
23 you the details of the stratigraphy from the surface going
24 down.

25 Q. But is there anything in this report -- okay? --

1 that indicates to you that there is thick redbed clays
2 between the surface and this perched aquifer, underneath
3 the landfarm site?

4 A. The perched aquifer is in the lower -- or excuse
5 me, the upper Dockum unit --

6 Q. The upper Dockum.

7 A. -- in the upper Dockum unit. So there is, one, a
8 liner between the waste and --

9 Q. Well, there's nothing there now. I'm talking
10 about now, the way that says --

11 A. Oh, all right, what's there now? Yes, there's
12 the upper portion, the unsaturated portion of the upper
13 Dockum unit --

14 Q. And that's where this water is located?

15 A. Right, but the perched zone is in the lower
16 portion of that upper Dockum, and there's unsaturated upper
17 Dockum between the landfarm cells and the perched zone or
18 saturated zone.

19 Q. Okay, and based on this report and your study --
20 extensive study of that area that you did at the time that
21 this report was authored, you cannot conclude that there is
22 a thick layer of clay that would act as a natural barrier
23 between the surface and that perched aquifer? You can't
24 make that conclusion, can you?

25 A. The regional characterization of the perched

1 aquifer and the extent of the upper and Dockum units would
2 lead me to interpret that there is a portion of the upper
3 Dockum unit between the landfarm cells and the perched
4 zone.

5 Q. Well, when you say a portion of the upper Dockum
6 unit, my question was, you cannot conclude from this
7 report, Mr. Corser, that there is a thick red clay barrier
8 between the surface of that landfarm and this perched
9 aquifer?

10 A. Yes, I believe there is.

11 Q. You believe there is?

12 A. I believe there is.

13 Q. And it extends all the way across?

14 A. And it extends all the way across.

15 Q. And that's based solely on what is said on page
16 -- well, how does that square with what is -- that doesn't
17 square with what's said on page 16, does it?

18 A. Page 16?

19 Q. I'm sorry, page 18.

20 A. Well, it says there was a thick sequence of low-
21 permeability Triassic clays encountered. These are in the
22 shallow holes that were drilled in the area of the landfarm
23 cells in Sections 4, 5, 8 and 9, and the Triassic -- the
24 alluvial material was encountered from 15 to 35 feet.

25 Q. Okay, now that's not thick clays, is it?

1 A. It's not. But below that is where the thick
2 clays are. That's where we get into the upper Dockum unit,
3 and there's an unsaturated portion of that upper Dockum
4 unit before we hit the perched aquifer, and that perched
5 aquifer is perched on the lower Dockum unit. So we have
6 a --

7 Q. But you would not recommend a landfill out here
8 that does not have some kind of a liner, would you?

9 A. No --

10 Q. Okay.

11 A. -- but the proposed landfill, as proposed, has a
12 liner.

13 Q. Okay. Let's talk about the design of the
14 proposed landfill, okay? Can you tell me what the -- what
15 are the proposed design standards for the liner?

16 A. What's been proposed in the Application is --

17 Q. Yes.

18 A. -- is to compact the -- compact the clay to 90
19 percent of standard density, which I would believe is
20 representative of 90 percent of a standard proctor, ASTM
21 D.698.

22 Q. Do you -- Is there any description in the
23 Application as to how that is to be done and how that is
24 going to be tested?

25 A. No.

1 Q. Have you ever been involved in an application
2 where the design of the proposed landfill does not indicate
3 how the clay in the liner is going to be compacted or how
4 it's going to be tested?

5 A. That's normally specified. But that could be
6 specified as part of a construction plan.

7 Q. Is there a construction plan with this
8 Application?

9 A. No, I don't believe a construction plan is
10 required.

11 Q. Well, when you are permitting an NMED landfill,
12 do you not have to have a construction plan?

13 A. Not necessarily. You have to have a plan that
14 would satisfy their requirements, their regulations. But
15 for construction could require a different level of detail
16 and designs and specifications. There may be additional
17 testing that's done to characterize the material to support
18 construction.

19 Q. This application would not be the standard NMED
20 landfill, would it?

21 A. This -- you know --

22 MR. DOMENICI: I'm going to object that,
23 relevancy.

24 THE WITNESS: This isn't an NMED --

25 MR. DOMENICI: Wait a second, that's fine. I'm

1 going to object to that question.

2 (Off the record)

3 EXAMINER JONES: Maybe you can rephrase it to not
4 consider the NMED.

5 MR. FELDEWERT: Okay.

6 Q. (By Mr. Feldewert) In the applications that you
7 have dealt with for a landfill that is going to accept this
8 kind of waste with these type of constituents, would you --
9 you normally have a more detailed design plan, correct?

10 A. This is the only oilfield waste or OCD landfill
11 that I've been involved with.

12 Q. Okay. So my question to you, in the Application
13 that you have been involved with where you're expecting
14 waste to have the same types of characteristics as oilfield
15 waste, in those circumstances the application will normally
16 have a more detailed description of the design, correct?

17 A. Yes, somehow.

18 Q. And they will have, generally, a construction
19 plan?

20 A. No.

21 Q. They will not?

22 A. They will not.

23 Q. Okay. Now, you were the project -- well, let me
24 -- did you -- are there any kind of drainage -- Do you
25 normally see drainage plans within applications for

1 landfills that are going to accept these types of waste?

2 A. Surface drainage?

3 Q. Yes.

4 A. Yes.

5 Q. Okay. You worked in the Triassic Park permitting
6 efforts, right?

7 A. Correct.

8 Q. Okay. And that is one that actually sits down --
9 the bottom of that is actually on the redbed clays?

10 A. The lower Dockum.

11 Q. And which -- according to your criteria, met --
12 well, it met the criteria set forth in your report?

13 A. Uh-huh, uh-huh.

14 Q. All right. And in addition to meeting the
15 criteria set forth in this report for acceptance of that
16 waste, did you also -- were you also required to put in a
17 liner?

18 A. Yes, as part of the RCRA Subtitle C requirements,
19 we're required to put in a liner.

20 Q. And what was the liner -- what type of liner
21 design?

22 A. We recompact the subgrade of the existing upper
23 and lower Dockum units, we placed a GCL, a geosynthetic
24 clay liner, and a geomembrane.

25 Q. How thick was your geosynthetic clay liner?

1 A. It's about a quarter of an inch thick.

2 Q. And what was your other liner?

3 A. Then an HDPE geomembrane.

4 Q. And what is that?

5 A. It's a high-density polyethylene.

6 Q. And that sits on top of the redbeds, and that's
7 what the NMED required before it would allow this facility
8 to accept these types of wastes?

9 A. That's what we negotiated with them, yes.

10 Q. Does it have a leak-detection system?

11 A. Yes.

12 Q. Does it have a leachate-collection system?

13 A. Yes, it does.

14 Q. Would the accumulation of fluids on the liner
15 system -- well, does the accumulation of fluids on the
16 liner system in general promote leakage?

17 A. It provides a gradient for flow, yes.

18 Q. And it creates a head, I guess --

19 A. A gradient, yes.

20 Q. -- as I understand? Okay.

21 And is that why you have leachate-collection
22 systems, to ensure that you don't develop these heads that
23 might penetrate their liner?

24 A. That's correct.

25 Q. Is there a leachate collection system proposed in

1 this Application?

2 A. There's a commitment by the operator to remove
3 any liquids that accumulate in the bottom of the cell, on
4 top of the liner.

5 Q. That accumulates in the bottom of the cell?

6 A. Yes.

7 Q. Well, what happens when you're filling the cell
8 up with material and you get a rainstorm?

9 A. Surface water runoff would collect in the bottom
10 of the cell.

11 Q. And how would you get that out?

12 A. It would be pumped out.

13 Q. But did it -- are they proposing a pump system
14 with their design here?

15 A. They haven't detailed it, but it wouldn't be
16 uncommon to use a portable pump to put in there and pump
17 the material out to a tank and remove it from the facility.

18 Q. But other than to say that they're going to move
19 water and pooled substances from their cells, there's
20 nothing in the Application to indicate how that's going to
21 be done, is there?

22 A. Nothing more than that, no.

23 Q. You mentioned that there were some -- Well, let
24 me strike that.

25 Let me look at my notes here a little bit.

1 A. Sure.

2 MR. FELDEWERT: I think I'm finished, thank you.

3 EXAMINER JONES: Dr. Neeper?

4 EXAMINATION

5 BY DR. NEEPER:

6 Q. I have just two questions.

7 A. Yes.

8 Q. Do I remember correctly that predicted
9 permeability of the liner was to be simply -- or hydraulic
10 conductivity -- something like 10^{-7} centimeters per second?
11 It's a number that frequently wanders through things, and I
12 thought I remembered it --

13 A. It does. I don't believe it's been specified in
14 the permit Application.

15 Q. All right. You had mentioned that there are low-
16 permeability units underlying the proposed landfill.

17 A. Uh-huh.

18 Q. Do you expect the permeability of those units to
19 be less than or greater than that of the liner?

20 A. I think there would be both. I think there could
21 be parts that are less than that and parts that are greater
22 than that.

23 Q. But it's unknown at this time?

24 A. Well, based on the characterization we've done
25 regionally where we sampled and tested that material, it's

1 ranged from 10^{-5} to less than 10^{-7} .

2 Q. So your expectation would be, you would find at
3 least one foot of thickness down there somewhere that would
4 have a lower hydraulic conductivity than the liner?

5 A. Yes, I think there's a good chance.

6 DR. NEEPER: Okay, that's all.

7 EXAMINER JONES: Ms. MacQuesten?

8 EXAMINATION

9 BY MS. MacQUESTEN:

10 Q. Mr. Corser, I wanted to make sure that I
11 understand the design of these cells. When I look at the
12 Application, I read that the excavation can be up to 20
13 feet below the ground level?

14 A. Yes.

15 Q. And berms can be built -- will be built at a
16 height of between five and ten feet above ground level?

17 A. Uh-huh.

18 Q. When these cells are filled with waste, how high
19 will the waste mound up in these cells?

20 A. Right, I think that is represented, more or less,
21 by the cross-section shown, which shows the top surface.
22 So I think the waste would be filled, you know, right up to
23 that level, in -- you know, in sequence. And then the
24 cover would be placed parallel to that, at a two-foot
25 thickness.

1 Q. So the waste will be piled up to the height of
2 the berm?

3 A. No, actually above the berm. This is the cross-
4 section you're looking at. You can see the waste will be
5 filled like this, mounded to provide surface water runoff
6 so you get drainage at closure, so you get drainage around
7 the berms.

8 Q. So the waste could be as high as some height
9 greater than 10 feet above the ground level?

10 A. Yes.

11 Q. The clay liner that you're proposing, is that
12 clay that is brought on site, or is that clay obtained
13 during the excavation?

14 A. It would be obtained -- the plan would be to
15 obtain that during excavation.

16 Q. Has the -- And then it will be compacted?

17 A. Yes, it would be moisture-conditioned and
18 compacted. And I believe samples have been taken and I
19 believe tests have been conducted on the materials.

20 Q. What were the results of the permeability tests?

21 A. I believe they were in the range of 10^{-7}
22 centimeters per second.

23 Q. You testified that you prefer a natural soil
24 cover to a clay cover?

25 A. Yes.

1 Q. What sort of concerns do you have about covers?
2 What do you look for in a good cover?

3 A. Well, in an arid environment particularly, one of
4 the biggest concerns is desiccation and cracking. A clay
5 liner or cover is usually placed slightly wet of optimum to
6 minimize the permeability.

7 In an arid climate like this, unless it's
8 protected from drying out it's going to dry and crack,
9 fissures will open up, and during the high-intensity
10 rainstorms that you get, you can get direct infiltration
11 through those cracks. There's no enough time or moisture
12 to re-heal those cracks.

13 Q. Do you have concerns about erosion of the natural
14 soil caps?

15 A. Yes.

16 Q. How can that be remediated?

17 A. Primarily by minimizing the surface grade of the
18 facility, not having steep side slopes or a steep cover
19 design which would promote erosion, in combination with the
20 vegetation that would be established.

21 Q. Well, what would your opinion be of a clay cap
22 covered with native soil?

23 A. If the native soil was sufficient to act as a
24 water balance to minimize or prevent wicking or evaporation
25 of moisture from that clay, put a clay cover on it and then

1 put enough soil so you had a water balance above that, then
2 all the water infiltration and exfiltration is going to
3 take place in this zone.

4 Then the need for the clay has really gone away,
5 because you've already got a -- we many times refer to it
6 as a sponge here that will hold the water and evaporate it.
7 And so the need for a clay has gone away.

8 Q. Can a leak-detection system be used with a single
9 clay-lined facility such as this one?

10 A. No --

11 Q. What are --

12 A. -- you have to incorporate other design measures
13 to make a leak-detection system work.

14 Q. What would those other design measures be?

15 A. Well, you'd have to put a collection system below
16 the clay liner to collect anything that would seep through
17 the clay and be able to detect it and/or remove it. That
18 would require some type of drainage layer.

19 Q. As I understand it, the wastes that will be put
20 into this facility are all solid wastes; liquid wastes will
21 not be allowed?

22 A. That's my understanding as well. Any liquid
23 wastes that are brought on site will be stabilized prior to
24 disposal in the cell.

25 Q. So the concern about leaking would be from

1 precipitation, I take it?

2 A. Precipitation or potentially consolidation of the
3 waste that's put in there.

4 Q. And could you describe again your plan for
5 dealing with any liquids that might accumulate in this
6 facility?

7 A. Well, as I mentioned, the facility is going to be
8 filled on one side, moving in this direction. During a
9 rainfall event, you know, these covers in here, we'll have
10 some runoff which will collect in the base of the facility.
11 And portable pumps, a tanker truck, whatever means are
12 feasible, would be put in there to pump that out and remove
13 it from the cell.

14 Q. Is there a set procedure for doing that? Is the
15 proposal that this be done within, say, 24 hours of a
16 precipitation event -- or has anything been spelled out for
17 how this would be handled?

18 A. I'd have to check. I believe in their current
19 permit, the current permit, I believe there's a time-frame
20 specified. But I'd have to check that.

21 MS. MacQUESTEN: Thank you, I think that's all.

22 EXAMINER JONES: Mr. Domenici?

23 REDIRECT EXAMINATION

24 BY MR. DOMENICI:

25 Q. Mr. Corser, do you have the guidelines up there

1 with you, the OCD guidelines? They're not an exhibit.

2 A. I don't have them with me. I have them at my
3 chair.

4 Q. Can you get your copy?

5 A. Yeah.

6 Q. Can you look at page 2 of your guidelines,
7 Section 7 --

8 MR. FELDEWERT: Hold on, I need to find a copy.

9 MR. DOMENICI: I'll go ahead and make it an
10 exhibit. What are we at, 21?

11 MS. HOLLINGSWORTH: 21.

12 Q. (By Mr. Domenici) Okay, I'm going to hand you
13 Exhibit 21. Are those the guidelines?

14 A. Yes.

15 Q. And when you talked earlier about different ways
16 you would prepare an application, you referred -- you said
17 you would look at the guidelines?

18 A. That's correct.

19 Q. Look at page 2, number 7, "Engineering Design" --

20 A. Yes.

21 Q. -- and under subpart A, the second sentence
22 there, would you read that?

23 A. Number 1 or --

24 Q. No, A.

25 A. Oh, just A?

1 Q. Yes, the second sentence.

2 A. "Provide technical data on the design elements of
3 each disposal method. Engineering designs must be
4 submitted to OCD for approval prior to construction."

5 Q. Now, you were asked a number of questions about
6 how construction would take place. I think you indicated
7 that in some of your other projects construction documents
8 are not included as part of the application?

9 A. That's correct.

10 Q. And would this be a time when construction
11 details would be reviewed by the agency?

12 A. Yes.

13 Q. And is that something that you've seen in other
14 permit processes?

15 A. Yes.

16 Q. So when you indicated that these details could be
17 handled later, would this be an appropriate place to do
18 that?

19 A. Yes.

20 Q. And in fact, it would be a required place --

21 A. Yes.

22 Q. -- to have the engineering designs reviewed by
23 OCD, correct?

24 A. Correct.

25 Q. Now, you talked --

1 MR. DOMENICI: I'll move admission of Exhibit 21,
2 it's the guidelines.

3 MR. FELDEWERT: No objection.

4 EXAMINER JONES: Now, did you enter Number 20 to
5 be admitted also?

6 MR. DOMENICI: What is 20?

7 MS. HOLLINGSWORTH: Number 20?

8 MR. DOMENICI: I would move Exhibit 20 also.

9 EXAMINER JONES: Any objection to 20?

10 DR. NEEPER: 20 is the samples.

11 MR. FELDEWERT: No objection.

12 EXAMINER JONES: 20 and 21 will be admitted --

13 Q. (By Mr. Domenici) Now, Mr. Corser --

14 EXAMINER JONES: -- to evidence.

15 Q. (By Mr. Domenici) -- when the siting decisions
16 were being made for Triassic, the Triassic Park facility,
17 were the applicants in that case considering applying for
18 what's known as a groundwater waiver?

19 A. Yes.

20 Q. And so when you were looking at criteria, were
21 you looking at criteria that would satisfy the stringent
22 requirements for a groundwater waiver?

23 A. Yes.

24 Q. And was a groundwater waiver applied for --

25 A. Yes.

1 Q. -- for Triassic?

2 And was a groundwater waiver obtained?

3 A. Yes.

4 Q. And therefore the Triassic permit, there was a
5 waiver of certain monitoring requirements --

6 A. Yes.

7 Q. -- based on that siting decision and the
8 groundwater investigation?

9 A. Yes.

10 Q. Do you understand that in this Application, GMI
11 is agreeing to install monitor wells?

12 A. Yes.

13 Q. And they're not asking for any waiver of
14 monitoring requirements?

15 A. Yes.

16 Q. Now, are you aware that in addition to the
17 information in Exhibit 3 that you testified about, that
18 there were actual drilling logs generated during the
19 subsurface investigation?

20 A. Yes, there were logs.

21 Q. And you were asked about your information about
22 how there might be -- what might underlie the landfarm
23 area?

24 A. Yes.

25 Q. Do you recall those questions?

1 Would Dr. Mansker be better able to interpret
2 those type of logs than you?

3 A. I believe so.

4 Q. But there is additional data out there --

5 A. Yes.

6 Q. -- that was generated at the time?

7 A. Yes, that's correct.

8 Q. And that was -- from your work with Mr. Bonner,
9 was he able to interpret those type of logs?

10 A. Yes, he provided the primary interpretation for
11 all that information.

12 MR. DOMENICI: That's all I have.

13 MR. FELDEWERT: I have one follow-up -- two
14 follow-up questions.

15 REXCROSS-EXAMINATION

16 BY MR. FELDEWERT:

17 Q. Do you have Exhibit Number 5 in front of you?

18 A. Yes.

19 Q. And then do you the guidelines that have been
20 marked as Exhibit 21?

21 A. Yes.

22 Q. Would you turn to page 2 of those guidelines?

23 Exhibit Number 5 is the C-137. This is the form that's --
24 is to be submitted with the application, as an application
25 for a surface waste management facility --

1 A. Yes.

2 Q. -- I'll represent that to you.

3 Paragraph 7 says you are to "Attach designs
4 prepared in accordance with Division guidelines..." and it
5 goes on to say "...for the construction/installation of the
6 following:..." Do you see that?

7 A. You're on page 2?

8 Q. I'm on the first page of Exhibit Number 5.

9 A. Okay.

10 Q. And it indicates you are to attach to this
11 application "...designs prepared in accordance with
12 Division guidelines..." Correct?

13 A. Uh-huh, uh-huh.

14 Q. All right. And the section that you were
15 referring to under the Division guidelines on page 2 --

16 A. Uh-huh.

17 Q. -- the engineering design criteria is part of
18 what is supposed to be included with this Application?

19 A. Uh-huh.

20 Q. Are those -- But those designs are not included
21 with this Application, correct?

22 A. No, I believe the designs are submitted with the
23 Application. They indicate how the cell will be
24 constructed, how it will be lined, how it will filled and
25 covered. Those are the primary components of the design

1 that I think are required to meet the guidance.

2 Q. Are you talking about this?

3 A. Yes.

4 Q. And your -- it's your opinion that that's
5 sufficient to meet the guidelines issued by the OCD?

6 A. Yes.

7 Q. And it's sufficient to meet the designs that are
8 required for pits or ponds or leak-detection systems?

9 A. For development of a permit modification, yes.

10 Q. Okay. And is that opinion based on your -- Well,
11 let me back up.

12 The only experience you've had with the Oil --
13 You have not had any experience with the Oil Conservation
14 Division, right?

15 A. That's correct.

16 Q. All right, so you don't know whether -- I guess
17 you can't then interpret their guidelines for them?

18 A. No.

19 MR. FELDEWERT: Okay.

20 MR. DOMENICI: I don't have any follow-up.

21 EXAMINATION

22 BY EXAMINER JONES:

23 Q. Mr. Corser, as the cells get filled up, you fill
24 them up with what, two feet, and then you put another
25 little layer of dirt on it, and then you put two more feet

1 of salt-contaminated waste? Is that how you --

2 A. No, I don't think there's a requirement or a
3 constraint on how much waste you'd put on there in a given
4 lift or day, but there's a commitment to put soil cover on
5 it to prevent blowing of waste around. And when you get it
6 full, when you get it up to your top surface design grade,
7 then you'd put the two-foot cover on it.

8 Q. So this business about putting the pumps in to --
9 or even a mobile pump in to get the water out, with the
10 rains that we've had in the last couple of years -- It's an
11 arid environment, but when we do get rain, we get --

12 A. -- you get a lot of it, I've experienced a few of
13 them.

14 Q. When would you recommend that that be started?
15 You'd recommend right away, wouldn't you?

16 A. Well, I'd recommend that there's capacity on
17 site, portable pumps, a tanker truck, a pump truck, that
18 could access the base of the facility to pump it out after
19 the rains hit.

20 Q. And how would you monitor what water level --
21 saturated water level is inside each cell?

22 A. Well, I'm talking about surface water that ponds
23 in the cell, and I think you'd -- whenever there's any
24 visible free water, you'd remove it.

25 Q. Okay, so you're not talking about saturated water

1 inside the cell?

2 A. In -- No, I'm not.

3 Q. You're not worried about that?

4 A. No, I believe the liner will contain that.

5 Q. What about -- are these soils -- did you do -- As
6 part of this testing, did you do soils strength testing to
7 see if there's any collapsible soils out there that would
8 be used in the berms, for instance?

9 A. No, I don't believe specific testing has been
10 done, but the berms would be constructed material, placed
11 and compacted, so I think that would remove the potential
12 for collapsing soils. Collapsing soils are normally a
13 natural geologic unit that hasn't been engineered, then
14 that could have the potential to collapse.

15 Q. So are you saying compaction, you can actually
16 negate the effects of soils that may exhibit collapse --

17 A. Yes --

18 Q. -- characteristics?

19 A. -- yes, you break that structure down and compact
20 it as part of the placement effort.

21 Q. All right. Is it your knowledge that that's the
22 way the berm was -- The big berm that Mr. Marley said was
23 around the east side of the facility, was that compacted?
24 Do you know if that was compacted?

25 A. I don't specifically know.

1 Q. How would you tell if that berm is adequate or
2 not, as an engineer? Would you go out and drill a hole in
3 it, or --

4 A. Well, you could. You could go out and take
5 compaction tests in that berm. But I would rely a fair bit
6 on what Bill mentioned earlier, that that berm has been
7 there for some time --

8 Q. Uh-huh.

9 A. -- and has withstood a number of rains --

10 Q. Okay.

11 A. -- and it's still there.

12 Q. Okay.

13 A. I mean, that's the observational approach, would
14 say it's adequate.

15 Q. This -- the Triassic Park facility is on the
16 lower Dockum, and this is on the upper Dockum?

17 A. The Triassic Park facility, the base of the unit
18 is in the lower Dockum. The side slopes are in the upper
19 Dockum.

20 Q. Okay. And this facility --

21 A. -- is -- this facility is in -- it could be
22 founded over the upper Dockum --

23 Q. Which is a --

24 A. -- and the alluvial sediments.

25 Q. And the alluvial sediments?

1 A. Yes.

2 Q. So it does have --

3 A. Well --

4 Q. -- you said the upper Dockum was a series of --
5 more likely to have a series of sands, silts and clays --

6 A. Uh-huh, uh-huh.

7 Q. -- several series?

8 A. Again, I believe Bill is much more knowledgeable
9 on that than I am.

10 Q. Okay, Bill being the geologist?

11 A. Bill being the geologist, I'm sorry.

12 Q. Okay. And you said it lined on three sides, with
13 the fourth side being the expansion side. Which direction
14 would that be?

15 A. I don't -- I think that would be up to the
16 operator, as to how he wanted to do it. But that's --
17 There wouldn't be waste placed on that, because they'd be
18 excavating that in preparation for the next --

19 Q. Okay. What about the salt-saturated cuttings, or
20 the salt-contaminated cuttings? How is salt and water
21 related? Salt attracts water, doesn't it?

22 A. Yes, it can.

23 Q. To a certain extent. So it is -- Dry salt, it
24 will -- if it gets a chance it will attract water, become
25 at a more equilibrium with more water content; is that

1 right?

2 A. Well, it --

3 Q. Once that happens, will it be more mobile?

4 A. It's a complex soil-chemistry question you're
5 asking that I'm not sure I'm really qualified to respond
6 to, other than the fact that the capillary forces to remove
7 water are quite strong, and that's driven primarily by
8 evaporation. So those capillary forces can -- are quite
9 strong to withdraw the water from that material.

10 Q. So the capillary forces won't hold the water, it
11 will actually repel the water?

12 A. Well, the drying will remove water from the
13 drilling muds, and the capillary forces will then pull
14 apart the material to form the desiccation cracking that I
15 referred to --

16 Q. Okay.

17 A. -- and those forces are quite strong.

18 Q. Okay. The evaporation, is there a rate of
19 evaporation that you know about out there in that climate?
20 In other words, is the design of the surface area of the
21 cells adequate, in your opinion, to have enough evaporation
22 to take care of the -- of any -- buildup of water?

23 A. Well, my understanding, these facilities are not
24 designed as evaporation units. Any liquid materials will
25 be stabilized before it's placed in a cell, so there's

1 really no design criteria to evaporate material from the
2 stuff that's going in the landfill cells.

3 Q. Okay, but your testimony is that the evaporation
4 will be stronger than the input of water, right?

5 A. Rainfall at the site is in the range of 10 inches
6 per year, the evaporation is in the range of 100.

7 Q. Okay.

8 A. So that's what I'm relying on.

9 Q. Okay. But you had those three criteria for
10 examining a site. Now, is that -- Whose criteria is that?

11 A. The project team developed --

12 Q. Project team.

13 A. Yeah.

14 Q. Okay.

15 A. -- Stoller, MWH and Gandy Marley representatives.

16 Q. Okay.

17 A. And part of that was to find an area where there
18 wasn't any perched groundwater.

19 Q. Okay. This different salinities in the perched
20 groundwater, does that imply any characteristics of the
21 extent of the little perched cells underneath -- In other
22 words, does it imply that they're connected, does it imply
23 that they're discontinuous, or what?

24 A. Well, again, Bill may comment on this in more
25 detail than I, but it's my understanding that the deep

1 wells in the lower Dockum, WW-2, in particular, and to an
2 extent WW-1, are representative of the lower Dockum. They
3 have the much higher TDS values. PB-14 was in the upper
4 Dockum, much shallower, and the TDS range for that were
5 much less, 4000.

6 So I believe they're reflective of the upper
7 Dockum and the lower Dockum.

8 Q. Okay, so basically the lower Dockum's higher
9 salinity is typical -- typically higher salinity?

10 A. That's -- I don't know if it's typical, but
11 that's what those results would imply.

12 Q. Okay. Those 28 shallow drill holes you did out
13 there on the -- That Triassic Park area, mainly, right? Or
14 did you do those or did -- am I saying that wrong?

15 A. Stoller --

16 Q. Stoller --

17 A. -- drilled and logged those holes.

18 Q. Logged them with a radioactive logging device or
19 a gamma ray or --

20 A. A physical log, physical geologic log --

21 Q. Oh --

22 A. -- a description of the materials --

23 Q. -- oh.

24 A. -- as well as a geophysical log.

25 Q. Oh, why kind of geophysical log would it be?

1 A. Again, I think Bill is the appropriate person
2 to --

3 Q. Oh, okay.

4 A. -- to talk to about that.

5 Q. What did they do to those holes after they
6 drilled them? Did they plug them?

7 A. They plugged them.

8 Q. With cement, or just put dirt right back in
9 there?

10 A. I believe they were plugged with cement, but
11 maybe Bill -- I think Jim can --

12 Q. Okay.

13 A. -- can talk to that better than I.

14 EXAMINER JONES: I've always wondered on these
15 environmental monitoring sites where they drill all these
16 test holes. It seems like that's almost a source of
17 possible contamination to the water.

18 Okay, any other questions? Want to start again
19 on this poor guy?

20 MR. DOMENICI: Nothing further here.

21 EXAMINER JONES: Okay, thanks a lot, Mr. Corser.
22 Let's take a break until three o'clock.

23 (Thereupon, a recess was taken at 2:47 p.m.)

24 (The following proceedings had at 3:08 p.m.)

25 EXAMINER JONES: Let's go back on the record and

1 call the next witness.

2 (Thereupon, the witness was sworn.)

3 WILLIAM L. MANSKER,

4 the witness herein, after having been first duly sworn upon
5 his oath, was examined and testified as follows:

6 DIRECT EXAMINATION

7 BY MR. DOMENICI:

8 Q. State your name for the record, please.

9 A. My name is William L. Mansker, M-a-n-s-k-e-r.

10 Q. Will you describe your education and --
11 educational background, please?

12 A. I have a bachelor of science and a master of arts
13 and a PhD in geology, and I've been working as a geologist
14 -- I got my PhD in -- When did I get my PhD? -- in 1982.
15 And I've been working as a geologist ever since that time.

16 Q. When you say working as a geologist, that means
17 field work?

18 A. I've done field work, I've also been in the
19 academic community, I've done research, but most of it has
20 been field work in the mining industry and environmental
21 industries.

22 Q. Have you been involved in providing site
23 characterization, subsurface site characterizations?

24 A. Yes, I do a lot of that work in environmental.
25 I've also worked in oilfields on saltwater contamination on

1 private properties and --

2 Q. Do you participate in drilling activities?

3 A. I participate in drilling activities to the
4 extent that I sample, I do geologic logs, and interpret the
5 data from drill holes, collect samples.

6 Q. Approximately how many wells have you been
7 involved with drilling for environmental --

8 A. In total, I would say several hundred.

9 Q. And what geographic area?

10 A. It's been primarily in New Mexico. Some of my
11 mineral industry experience has been in Colorado, Utah,
12 Wyoming, Kansas, in those areas.

13 Q. But the majority of your work has been --

14 A. The majority has been in the New Mexico climate.

15 Q. Have you been qualified as an expert witness in
16 state and federal court?

17 A. Yes, I have.

18 Q. Have you testified as an expert witness in
19 administrative hearings with the Environment Department?

20 A. Yes, I have.

21 MR. DOMENICI: I would tender Dr. Mansker as an
22 expert geologist.

23 MR. FELDEWERT: No objection.

24 EXAMINER JONES: Any other objections?

25 MS. MacQUESTEN: No objection.

1 EXAMINER JONES: Dr. Mansker is qualified as an
2 expert petroleum geologist -- environmental geologist.

3 MR. DOMENICI: Say geology.

4 EXAMINER JONES: Geology, expert in geology.

5 Q. (By Mr. Domenici) Okay, Dr. Mansker, let's turn
6 your attention to this project. When did you first get
7 involved in working with Gandy Marley?

8 A. I believe I got involved about, oh, 45 to 60 days
9 ago, in reviewing information that was already available on
10 the site, and I've since participated in developing
11 additional information for the site.

12 Q. How many times have you been to the site?

13 A. Three times.

14 Q. And are you familiar -- other than the work on
15 this project, had you been familiar with the general
16 geology in this part of New Mexico, from --

17 A. Yes, I am, I'm familiar with most of the
18 sedimentary stratigraphy and a lot of the Precambrian as
19 well as a lot of other terrain, geologic terrains, in New
20 Mexico.

21 Q. And how does that apply to this project?

22 A. The knowledge of the geology?

23 Q. Well, is that the geology that's applicable here?

24 A. Yes, yes --

25 Q. Okay, explain --

1 A. -- primarily is the sedimentary stratigraphy,
2 right.

3 Q. Go a little slower. Explain why is that the
4 geology here.

5 A. Well, there are sedimentary rocks here. There
6 are no igneous or metamorphic rocks, that we know of, until
7 you get down deep into the basement rocks, and it's all
8 basically Paleozoic up through Mesozoic through Cenozoic to
9 Quaternary, recent-type sedimentation. So that's the
10 stratigraphic section that we're looking at, or the
11 sequence of lithologies that we're looking at --

12 Q. So this --

13 A. -- in New Mexico.

14 Q. So this would have been laid down in a
15 sedimentary method over time; is that what you're saying?

16 A. Yes, almost everything in this area is
17 sedimentary in nature.

18 Q. And when you started looking at this project, did
19 you review any historical geological studies?

20 A. Well, I had quite a background in the geology of
21 New Mexico. I've traveled and worked in a lot of different
22 areas, and I did research some specifically, focusing on
23 the Dockum group so I could become more familiar with that
24 stratigraphy.

25 Q. And what did you learn from that research?

1 A. I learned that the Dockum group is basically a
2 group of rocks that was laid down in the Mesozoic area --
3 we're talking just about the Triassic portion -- and that
4 was the one time when the continents were together as
5 Pangaea, supercontinent that began splitting up and forming
6 all of these large intra-cratonal basins or
7 intercontinental basins, and they were shallow basin
8 features, generally, that had interior drainage from
9 outlying areas.

10 And the Dockum group is one of those such series,
11 where the bottom portion or what's called the lower Dockum
12 group is basically a quieter geologic setting, lacustrine,
13 lake-type, very quiet, long-term sedimentation processes,
14 very fine-grain, a lot of mudstones, mostly mudstones in
15 the -- all except the basal portion.

16 And then the upper Dockum group was a -- more of
17 a fluvial-type system. It was also a very low-energy drain
18 system toward the center of the basin, but there were some
19 -- a little more fluvial activity getting up into some
20 sands and silts, as opposed to just strictly mudstone-type
21 deposits.

22 Q. Were there mudstones in the -- Are there
23 mudstones in the upper Dockum?

24 A. Yes, there are, there's a series. They're all
25 relatively impervious rocks except for the very, very thin

1 sands that are encountered at times, and it's mostly silts
2 and clays and -- that's kind of in the environmental
3 terminology, silts and clays. In the production-type
4 world, those would be siltstones and mudstones, would
5 probably be equivalent to those, so -- the stone being an
6 indurated part, means that they're cemented together a
7 little bit.

8 Q. Did you review the Exhibit 3 that we've talked
9 about, which is the preliminary geologic investigation
10 report prepared by Stoller?

11 A. Yes, I did.

12 Q. And in addition to reviewing that narrative
13 report, did you review logs that were taken around that
14 same time?

15 A. Yes, I've reviewed all of the geologic logs or
16 lithologic logs that were created or generated by Mr.
17 Bonner, from Stoller, as these borings were put in, these
18 proposed borings. And I also reviewed, to some extent, the
19 geophysical logs for most of those same holes that were
20 conducted by a third party.

21 Q. And based on that review, did you develop a
22 general understanding as to what the subsurface geology was
23 on the area around where the landfarm is?

24 A. Yes, I discovered that all of the logs are more
25 or less consistent with what is known about the Dockum

1 groups that I just described to you, that there's a lower
2 unit that is a much tighter formation, finer-grain
3 formation.

4 And then the upper group is a series of thinner-
5 layered to medium thicker-layered units of silts and clays
6 and a few sands, fine sands.

7 Q. When you say two medium thicker layers, do you
8 mean two layers running through the upper Dockum? Is that
9 what you were talking about?

10 A. "Two" meaning --

11 Q. You said -- I think you said two medium thick
12 layers through the --

13 A. No, no, I didn't mean "two" as a number.

14 Q. Okay.

15 A. I just meant it ranged from -- to -- from
16 thicker, tighter clay -- more clay-rich units in the lower
17 Dockum than at the upper Dockum as distinguished by it
18 being more of a fluvial-type environment where you had more
19 stream-flow-type rather than lake-type deposits, so...

20 Q. Did you develop an understanding from looking at
21 the studies and the logs about whether there was perched
22 aquifer -- perched water beneath the landfarm location?

23 A. Yes, I did, it's evident in the geophysical logs,
24 and it's also hinted at in some of the lithologic logs
25 where you talk about the dampness or the moisture content

1 of the -- visibly seen in the soils when they were -- the
2 borings were being emplaced.

3 And I saw that also on the latter data that I
4 developed on our own drillings.

5 MR. DOMENICI: Let me show you the logs.

6 What are we on?

7 MS. HOLLINGSWORTH: 22.

8 Q. (By Mr. Domenici) Let me hand you Exhibit 22 and
9 ask if you can identify this.

10 A. This is a geophysical log by Southwest
11 Geophysical Services for one of the borings, the Proposed
12 Boring-1, and it's two logs run simultaneously -- well,
13 three, actually. There's a caliper log, which checks the
14 diameter of the hole going down, and there's a gamma-ray
15 log and a neutron log running at the same time.

16 The gamma-ray log measures natural gamma-ray
17 emissions from the sediments. Clays tend to have more
18 gamma emissions than, say, sands or silts.

19 The neutron actually looks at moisture content,
20 because neutrons are sent out, and those are absorbed by
21 hydrogen-bearing fluids, and you get a response, and
22 they're almost -- not always, but for the most part they're
23 antithetic; when one goes up, the other goes down, so...

24 Q. Do you know where these -- Are you able to place
25 these three locations?

1 A. Oh, have I got three of them here? Okay. I
2 haven't looked at the other two yet, but yes. Yes, I can
3 place those on the map that was shown earlier.

4 Q. Can you show us on Exhibit 7, which is that map?

5 A. Yes, here's the landfarm/landfill, proposed
6 landfill site. Get it to the right -- oriented right.
7 This is the caprock area over here, here's the landfarm.
8 PB-1 is located just off of the southwest corner of the
9 current landfarm, PB-26 about the center, PB-27 just off
10 the southeast corner, pretty much along the road that runs
11 along the edge of the landfarm.

12 Q. And what do those logs tell you about the
13 subsurface geology --

14 A. Well, first of all --

15 Q. -- at that location?

16 A. Again, Exhibit 22, looking at PB-1, you can see
17 that the -- first of all, that the diameter of the hole
18 stayed pretty much the same, with little variations on the
19 way down.

20 The gamma-ray log, which -- I said again, if
21 there's a positive displacement it's usually where there's
22 a clay or a more clay-rich sediment, and you see there's
23 quite a bit of variation as you go down the hole. Toward
24 the bottom it looks like there's a little more silty
25 material, especially when you look against the neutron log,

1 because the silty material will tend to be a little higher
2 moisture content, and you see that reflected in the neutron
3 log.

4 And actually, there's a break in the neutron log
5 at about 180 feet, and that's where there was -- that's an
6 indication that there was water encountered, or a very,
7 very high moisture content.

8 Q. So where would the impermeable barriers be?

9 A. The impermeable -- The most impermeable layers
10 would be the most positive kicks on the gamma-ray logs.
11 Displacements to the right would be more clay-rich,
12 displacements to the left would be coarser-grained, less
13 clay-type materials.

14 Q. So what depth?

15 A. Well, it varies all the way down. There looks to
16 be a break at about 30 feet where the neutron log drops
17 down and the gamma-ray log picks up, so that tells you that
18 you're in more clay-rich environment.

19 Q. At 30 feet?

20 A. At 30 feet there's a break. And it looks like at
21 about 92 or -4 feet there's another break where the gamma-
22 ray log went down, meaning that it was less clay, or less
23 shale. And there was a little bit of a kick in the neutron
24 log, which indicates there might be a little moisture at
25 that point, and probably a little coarser sediment.

1 And you also have to keep in mind, there's
2 probably some instrumental variations in here that don't
3 mean anything. So that's how I would interpret that break
4 in the neutron log down at 100 feet, or that could be
5 another thin clay layer.

6 Then as you get down to about, oh, 120 feet,
7 there's an increase in the neutron log, or a positive
8 displacement, so that would tell you that it's a little bit
9 coarser material, maybe more silty material.

10 And also there's a break at 140, which there's a
11 big kick in the neutron log, which indicates again more
12 moisture content or more hydrogen-bearing fluids, probably.
13 It might -- I doubt that it's oil and gas. It could be,
14 but it's probably water. And there's a corresponding drop
15 in the gamma-ray, so that tells you it's coarser sediments,
16 probably silts or maybe fine sands.

17 And then you see a break at about 160 feet of the
18 same kind. Between those two breaks it would appear to be
19 a more -- a clay layer or a finer-grain layer in there.

20 And then it goes on down the line until you get
21 to 180 where the -- actually the dry neutron log goes off-
22 scale to the left and you have to switch scales to continue
23 reading it. And that's an indication of water or very high
24 moisture content in the -- probably water in a fine sand.
25 And so that's telling you that there definitely -- or more

1 likely than not, that there is water at about 180 feet.

2 There may be moisture in some of these other
3 zones as well, but it's not enough to -- because of the
4 rate you're drilling, you blow through them pretty fast,
5 so...

6 And you see the same thing on the next log. It's
7 not exactly the mirror-image log of the last one, but you
8 can see a break down at about 128 feet or so, it looks
9 like, wet sediments were encountered. And I don't see that
10 on the last one of PB-27, but it's probably because it
11 bottomed out.

12 The key thing on these logs, though, is, you can
13 interpret -- make a lot of geologic interpretations from
14 the antithetic relationship of these logs.

15 Q. Well, what I'd like you to do is give us those
16 geologic interpretations --

17 A. Well, I just kind of gave you a geologic --

18 Q. Okay, kind of --

19 A. -- cross-section --

20 Q. -- yeah, in kind of --

21 A. -- of the first one.

22 Q. -- a summary form, just say from the surface down
23 to, say, 100 feet, how much of that would be -- would you
24 consider largely impermeable --

25 A. I'd say from 30 feet down to about 95 feet,

1 that's certainly impermeable -- highly impermeable
2 material. Just relatively, I can't put a number on it
3 unless we have some data from that. And then down about
4 100 feet to where you get a little glitch in it. But I
5 would say definitely that low.

6 And then at 110 to 120, it looks like you start
7 getting into some coarser sediments, less -- less
8 impervious material.

9 Q. So looking at all three of these, are you able to
10 testify that there's essentially a clay layer approximately
11 30 to 80 or 90 feet?

12 A. I would say there is a group or a series within
13 that distance of more impervious material. And not having
14 the lab data on what the conductivity or a size analysis on
15 it -- that would tell you more about how correct you were
16 in that assumption.

17 Q. And does that correlate with your general
18 knowledge of how the upper Dockum geology --

19 A. Yes, like I say, it's variable, and some of these
20 may -- where the neutron logs go up, may be thin,
21 discontinuous sand layers that were drilled through. For
22 the most part it's relatively fine-grained material, either
23 muds or silts, with a few sands interspersed throughout
24 that section.

25 Q. And what does the different locations where you

1 found water in these three logs show -- indicate to you
2 about what type of water resources --

3 A. Well, in PB-1 you see an indication of water at
4 180 feet. In PB-26 you see it at about 130 feet. And
5 again, where these coarser-grained sediments are, there
6 could be moisture there, but it's not enough to form a --
7 it's not saturated, it's just semi-saturated, perhaps.

8 And that's what I would interpret from the first
9 two logs, that there -- definitely water showed up in
10 those. And it's not indicated on the geophysical log on
11 the third one, but...

12 Q. So would that indicate the water that is showing
13 up is in the nature of a perched -- perched water?

14 A. I would say it's perched because, first of all,
15 in these two logs -- and they are not too far removed from
16 one another in space -- there's 50 feet of difference in
17 the water level, just based on the geophysical log.

18 The sequence going downhole -- keep in mind,
19 these are not at equivalent levels when they started
20 drilling, either; one may be 10 or 20 feet above another
21 one. But the correlation of these breaks in the
22 geophysical logs are not -- are dissimilar with depth, so
23 that tells you that these are not continuous beds. We
24 surmise from earlier testimony that the general dip is one
25 degree off to the east, so that would give the appearance

1 that these are not continuous units that we are looking at,
2 they're discontinuous units.

3 Q. And did you have an opportunity to look at
4 lithology logs for some of the PB holes?

5 Let me show you -- hand you Exhibit 23 and ask if
6 you can identify that.

7 A. I believe these are lithologic logs that were
8 done -- this one is not dated. Some of them are dated.
9 7-15-94 -- early -- mid-July, 1994. JAB, so I presume
10 that's Mr. Bonner, so I presume these are his lithologic
11 logs that he did in the field, or made up from his field
12 notes, probably.

13 Q. Looking at the last page of Exhibit 23, I think
14 this is one of the wells you showed us on the map as PB-1?

15 A. Right, as PB-1.

16 Q. What does Mr. Bonner's lithology log indicate as
17 far as the subsurface?

18 A. Well, in the first 50 feet there are two -- right
19 at the surface there's a red/brown --

20 MR. FELDEWERT: I'm sorry, Counsel, what page are
21 you on?

22 MR. DOMENICI: The very last page.

23 THE WITNESS: The very last page.

24 MR. FELDEWERT: Thank you.

25 THE WITNESS:

1 Q. (By Mr. Domenici) There's a red-brown sandstone
2 right at the surface, and that may well be the alluvial
3 material that's at the surface.

4 And then there's bray/grown [sic] siltstone
5 which, since he's referring to it as a siltstone it makes
6 me believe that it's probably the -- you're probably
7 through the alluvium and you're into the upper Dockum
8 redbeds at that point in time.

9 And then there is a thin olive gray sandstone.
10 There's not a very accurate scale on here, but you can see
11 these are probably -- what? Five, 10, 15 -- 10, 20, 30, 40
12 -- each little hachure mark on there -- on the -- where --
13 the column "Lithology", is 10 feet. So that first
14 sandstone looks to be about five feet, and about 20 feet of
15 this siltstone, and then another five feet of a gray
16 sandstone, and then a pale red/brown mudstone that looks to
17 go from about 30-some feet down to about 67 -- no, it goes
18 on down deeper than that.

19 Well, it's all -- essentially it shows all
20 mudstone down to about 110 feet, in that interval from
21 about -- about 32 feet to 110 feet it shows as mudstone.

22 Now, there's different color variations in there,
23 but that's very typical of upper Dockum, is, it's
24 variegated, you'll see grays and reds and greens, a lot of
25 color variation as you go down through the section.

1 So it looks to be a fairly thick sequence of
2 mudstones there. Again, mudstones are relatively
3 impervious. They generally run about 10^{-5} , 10^{-7} or 10^{-8} ,
4 depending on how tight they are on the hydraulic
5 conductivity. And then -- So that persists down to about
6 142 feet or so.

7 Then you're into a siltstone, and he indicates
8 it's damp, so that's very likely -- could produce water at
9 that depth there.

10 And then below that point again, it's mudstone
11 down to their total depth of 200 feet.

12 Q. So -- and that is one of the wells that's
13 right --

14 A. Right, that's --

15 Q. -- right in the middle of --

16 A. -- that's one of the ones I indicated on the map.

17 Q. -- right in the middle of the landfarm,
18 basically?

19 A. It's in the road that's on the south boundary of
20 the --

21 Q. Okay, so it's --

22 A. -- landfarm.

23 Q. -- just off the corner of the landfarm?

24 A. Right.

25 Q. So if the statement were made that beneath the

1 landfarm there is a layer of over 50 feet of redbed or
2 mudstone, would this --

3 A. That's what this log would indicate, right.

4 Q. And the geophysical log would also --

5 A. Well, the geophysical logs are a little --
6 probably a little more difficult to interpret, because
7 you're interpreting in an instrument. But the test --
8 that's consistent, I think.

9 We -- I said that mudstone started at about 32
10 feet or so. If you look at the log for PB-1, right about
11 32 feet is where you see a major geophysical break there,
12 and you see the gamma-ray displacement go up and you see
13 the neutron log go down. So that's telling you it's a
14 tighter, more fine-grained -- more clay-rich.

15 And that persists down to about 100 feet, and you
16 don't start -- it's not exactly correlatable with
17 lithologic logs, but you can certainly support each other,
18 going from one to the other.

19 MR. DOMENICI: I'll move admission of Exhibits 22
20 and 23.

21 EXAMINER JONES: Any objections?

22 MR. FELDEWERT: No objection.

23 DR. NEEPER: (Shakes head)

24 MS. MacQUESTEN: (Shakes head)

25 EXAMINER JONES: Exhibit 22 and 23 will be

1 admitted.

2 Q. (By Mr. Domenici) Now, Dr. Mansker, after
3 reviewing the geophysical logs and the lithology logs and
4 the narrative studies, what investigation have you done
5 yourself?

6 A. The actual on-the-ground investigations that I've
7 done, first of all, I've got access to the drill cuttings
8 from PB-1 and I did some -- what I call TDS-equivalent
9 tests on those, lab tests, to see if they were saline or
10 not -- and I can provide that information if you need it --
11 just to see what the geologic section looked like as
12 background in the subsurface sediments.

13 Q. What did you find out?

14 A. I found out that there is a gradual increase in
15 salinity with depth. A best-fit line on the graphical data
16 shows it as increasing with depth throughout that 200-foot
17 interval. It was not very high, but it was significant
18 enough to be read with a conductivity meter.

19 And basically that's done by -- It's not an ASTM
20 methodology, it's probably my own. I developed it for work
21 in the Texas oilfields when we were investigating saltwater
22 spills there.

23 Basically, we go around and get background
24 readings, and then we get in the area of interest and
25 collect samples there, take 10 grams of the soil sample and

1 50 grams of distilled water, and take a TDS reading on it.
2 And it's internally consistent as long as you do it all the
3 same way, but it doesn't directly correlate with specific
4 inductance or anything else, because you're working with a
5 solid.

6 There is an ASTM method for doing that, but the
7 labs do that. Mine is a field technique that I use.

8 So I did that on those samples, that was the
9 first thing that I did. And then -- and I also did some
10 background soils as well.

11 And I guess the second thing that I did was to go
12 down and drill the two monitoring wells that we put in
13 about a week ago. And I did the lithologic logs on those.
14 We did not do any geophysical logs. We installed those as
15 monitoring -- groundwater monitoring wells.

16 Q. Did you participate in selecting the site for
17 those wells?

18 A. No, I did not, they were already selected by the
19 time I got there.

20 Q. I'm handing you Monitor Well-1, which I'll mark
21 as Exhibit 24 -- I'm sorry, Monitor Well-2 is Exhibit 24.
22 Monitor Well-1 is Exhibit 25.

23 And let me ask if you -- you created those logs?

24 A. Yes, these are my log -- or lithologic logs for
25 the two monitoring wells that we put in, Monitor Well-1,

1 Monitor Well-2.

2 Well, I might point out one difference you'll see
3 here is, I use the term "silt" and "clay" as opposed to
4 "siltstone", "mudstone". But they are basically
5 equivalent, depending on the degree to which they're
6 cemented together, so...

7 Q. What did you identify as far as relatively
8 impervious material beneath the site?

9 A. Anywhere -- You could look at either one of these
10 logs. Anywhere you see clay, that's basically imp- --
11 rela- -- I would say impervious. It's probably going to be
12 about 10^{-5} , 10^{-7} , depending on whether there's silt present
13 in it or not.

14 And you'll see references to, in the upper 10
15 feet or so, caliche, and then a brown clay, brown clay,
16 brown clay, with silty clay stringers. And that's why I'm
17 saying it's consistent with the upper Dockum, is, you'll
18 see little stringers of different-size materials. Clay --
19 basically, clays and silts all the way down. And I don't
20 -- I think I saw a thin sand in one of these drill holes,
21 but I don't recall which one it was.

22 Q. And what did you identify as far as water?

23 A. Well, I see that on the Monitor Well-1 log at 150
24 to 155 feet we had a moist -- damp to moist laminated
25 micaceous clay, and that also is typical of the silty units

1 in the upper Dockum as they're micaceous clays, plus or
2 minus silty.

3 And we took a split-spoon sample there that we do
4 not have the data on yet. And that moistness persisted at
5 least for another five feet. These are five-foot
6 intervals.

7 Q. And then you got back into rock?

8 A. Yes, it was mostly, again, clays and silty clays.
9 That's on Monitor Well-1.

10 And also on the -- since we completed these as
11 monitoring wells, on the right-hand side is the monitoring
12 well completion diagram of the wells we installed.

13 Monitor Well-2, again it started out with a
14 little caliche at the surface, down to about eight feet or
15 so, and that was a red silty sand. And those are probably
16 what I call colluvial sands underneath that. The Mescalero
17 sands in the area are pretty light-colored tan sands. But
18 the sands -- the silty red sands are usually colluvial.
19 That means they were derived from the windblown erosion of
20 these upper Dockum sediments right at the surface. So you
21 generally see those.

22 Again, it's very similar to the other hole, not
23 specif- -- one-to-one comparison, but you see the same
24 thing, clays and siltstones and -- Let's see, where are we
25 here?

1 And here we -- at 60 to 65 feet we hit a very
2 hard, dense clay, and that persisted at least 75 feet,
3 where it turns back into a -- well, it's still a clay,
4 slightly different color. Clay down to 85, 90 feet, and
5 then between 90 and 95 -- at about 93 feet it converted
6 back over to a silty clay. So basically from about 60 feet
7 we -- at 60 feet, we left a silty clay, got into a
8 relatively tight, hard, fat clay, and that persisted down
9 to about 95 feet. So there's about 40 to 35 to 40 feet of
10 -- relatively massive clay layer in there.

11 We hit some moistness in that underlying silty
12 clay at about 95 feet. Dampness persisted another five,
13 10, 15. So that zone in there is where there could very
14 likely be some water produced out of that -- not -- or at
15 least evolved out of that, not produced in the useful
16 sense.

17 And that's -- if you look at the well diagram, we
18 screened up through that zone. What we tried to do was
19 place the well screen so that it would catch any water we
20 intercepted. And there probably were -- probably a zone
21 about 90 or 95 feet where there may be a little bit of
22 water evolving. And then down deeper at 100 to 130 feet or
23 so we get another one. But we screened through the whole
24 interval, we didn't try to isolate zones. But it was --
25 but -- and between there were unsaturated sediments, so

1 it's again alluding to the perched, somewhat discontinuous
2 nature of the sediments and the perched water, and the
3 little bit coarser zones.

4 Q. So what is your conclusion, as far as the
5 subsurface geology beneath the landfarm?

6 A. Beneath the landfarm -- the alluvium aside,
7 because I believe they're constructing actually below that,
8 because there's a very thin veneer on the top of the upper
9 Dockum. Then you run into the upper Dockum for probably to
10 100 feet of that, and then you get into the lower Dockum
11 sediments where they're a little more -- like I say, a
12 little tighter formations. The upper Dockum is
13 characterized by variability within a range and thin,
14 laminated layers that are variable from clays to silts to
15 occasionally a silty sand-type formation, but they're very
16 thin.

17 Q. And what information did you develop as -- or did
18 you develop as far as the quality and quantity of the water
19 in these perched, discontinuous areas?

20 A. I believe in the bottom of Monitor Well-2 was the
21 only place that we actually saw water in the drill hole,
22 because we lost circulation on the drill bit, and usually
23 that happens when -- and we were in silty clays or clays, I
24 don't remember which -- but we lost circulation, and that's
25 usually an indication that there's moisture getting in

1 there. There's not enough moisture to make the cuttings
2 wet enough to come to the surface, so they just kind of
3 ball up on the drill bit. And so there was moisture there
4 but not flowing moisture.

5 And we ran into moisture, as my logs indicate, at
6 least two places in both holes, and -- I've forgotten what
7 the question is.

8 Q. Well, just what you developed -- what information
9 you obtained regarding quality and quantity of that water.

10 A. Quantity is low. The drilling said nothing about
11 the quality of the water, and that was -- I believe Gandy
12 Marley contracted that out to CMB, to be independent of and
13 to be independent of them, to have a third -- independent
14 third party to evaluate the well parameters, both physical
15 and chemical.

16 Q. Did you prepare a visual demonstration of the --

17 A. I have my well logs over here, telescoped down to
18 half-inch intervals.

19 Q. Could you show those to the Hearing Examiner and
20 explain what they show in terms of geology?

21 A. I used to be an academic, so I like to show and
22 tell.

23 First of all, I'll show you -- since I have the
24 old PB-1 samples in Baggies, I did a -- basically took each
25 five-foot interval, and that's what those sediments look

1 like, and those. And you're going to see some variation
2 from one to the other. Basically, if you look at them all
3 three together you're going to see that they're very
4 similar overall, the type of sediments and everything.

5 And the color variations, you will run from --
6 these are -- you can see the caliche in these upper
7 layers --

8 EXAMINER JONES: This is alluvium?

9 THE WITNESS: It's in the zero to five feet, so
10 it's probably calichified alluvial material, is what I
11 would call it. Didn't see too much caliche all the way
12 down the hole, but you can see there's variations and
13 there's some persistent red units in here and some
14 persistent gray units. They don't correlate distancewise,
15 and that again alludes to the fact that these layers are
16 discontinuous. Like this gray layer, we don't see it in
17 the other two. And these were basically all in the same
18 area, so that's probably a little lens of this gray
19 material, whatever it is.

20 Most of these things are, like I say, siltstones
21 and shales. This is that about 40-foot-thick clay layer in
22 Monitor Well-2.

23 You guys can look at them too, if you want.

24 Anyway, basically I took each five-foot sample
25 and put them in a half inch, so it's telescoped the geology

1 down so you can see it. I'll leave them up here.

2 Q. (By Mr. Domenici) So would those visually depict
3 that the site is underlain by the Triassic redbed?

4 A. Yes, for certain that's the case. And it also
5 shows you the variability in the -- with depth, and the
6 lack of repeatability on a one-to-one basis, from one hole
7 to another. So it again alludes to the fact that there's a
8 lot of discontinuous lithologic units.

9 Q. Now, you heard Mr. Corser testify, and he --
10 Actually, strike that.

11 Let's go through the water analysis, which I
12 think is already an exhibit.

13 A. Is that CMB's report or --

14 Q. Yes, that's Exhibit 15, if you could go to that.

15 A. Okay, got it.

16 Q. Let's focus first on the water quantity in these
17 wells.

18 A. Quantity?

19 Q. Quantity, yes.

20 A. Okay.

21 Q. And I want you to assume the definition of
22 groundwater is interstitial water that occurs in saturated
23 earth material and which is capable of entering a well in
24 sufficient amounts to be utilized as a water supply.

25 Based on your experience and that report, are

1 these perched areas of water groundwater?

2 A. They're not usable groundwater, so it probably
3 would not meet the definition of a -- as you defined it
4 there. Or very limited use, I would say. Dust
5 suppression, probably, would be the only use I could think
6 of.

7 So I wouldn't call it a usable groundwater.

8 Q. And then it says -- the definition of fresh water
9 is where there is no present or reasonably foreseeable
10 beneficial use which would be impaired by contamination of
11 such water. Does --

12 A. The definition of fresh water is --

13 Q. That's fresh water. Given your experience and
14 that information, would this qualify as fresh water?

15 A. No, it would not.

16 Q. Now, did you review the quality -- have you
17 considered the quality of this water?

18 A. I have looked at the analyses. First of all, one
19 thing you can do in the oil patch that you can't do in
20 environmental work is, you can taste your samples if you
21 want. And first thing I did -- you do is, take a little
22 bit on your -- put it on your tongue, and you can taste the
23 salinity in the water. So you have a good gut feeling up
24 front that it's not good water.

25 And that's incidentally how you can tell a clay

1 from a shale from a silt, is, you bite it. And if you
2 don't feel any grit it's clay, and if it's gritty, it's got
3 silt in it. So some real simple field tests you can do.

4 But yes, I would say -- I did sample the water,
5 didn't swallow it, and I have looked at the geochemistry
6 that came back on the water samples.

7 Q. And do you have anything to add to Bill Marley's
8 testimony earlier today, when he indicated he wouldn't use
9 this for livestock?

10 A. Well, I don't know the ranching aspect of it. I
11 wouldn't use the water for any useful purpose. And I think
12 that's -- my initial indication of the water is probably
13 borne out by the water chemistry, so...

14 Q. Now, let me ask you the same question I asked Mr.
15 Corser, and I understand -- But let me lay a little
16 foundation first.

17 Are you generally familiar with what Gandy Marley
18 proposes for the landfill --

19 A. Yes, sir.

20 Q. -- construction, as far as the liner?

21 A. I'm not an engineer, but I pretend I am
22 sometimes, so...

23 Q. Okay. Do you have an opinion as to whether or
24 not the disposal of oilfield wastes and the way it's
25 proposed in the landfill cells will not adversely impact

1 fresh water?

2 A. First of all, there is --

3 MR. FELDEWERT: Object. I'm going to have to
4 that foundation. He's not an engineer. He has been
5 certified as a geologist, so he certainly can talk about
6 the nature of the area, but in terms of the effect of the
7 design and the pit and the liner, things of that nature,
8 he's not qualified to testify.

9 THE WITNESS: Can I point out that I also do -- a
10 hydrogeologist, and I do hydrogeologic calculations and
11 evaluations as a part of my ongoing work.

12 Q. (By Mr. Domenici) So as part of that do you
13 consider clay barriers?

14 A. Not in the context of what we're proposing it
15 here, but I do consider clay barriers to groundwater
16 movement and standard monitoring wells, and clay barriers
17 as impermeable subsurface fences, as you will, to prevent
18 migration of water. But I do a lot of hydrogeologic
19 calculations and make hydrogeologic conclusions about most
20 of the sites that I work on.

21 Q. And would that include the considering of some
22 type of containment layer, like in this case the clay --
23 constructed clay --

24 A. Yes, we run into that pretty commonly during the
25 environmental work, because there we have known

1 contamination in the subsurface, and we have to be very
2 cautious about what we penetrate and don't penetrate in the
3 subsurface so that we don't spread any contamination,
4 and...

5 Q. Well, let me start it this way. First of all, do
6 you have an opinion as to whether the subsurface geology
7 beneath the proposed landfill, in and of itself, is such
8 that the use of the landfill, regardless of whether there's
9 a cover -- a liner -- or not -- and let's assume there's no
10 liner, that you had the landfill without a liner -- based
11 on only the geology, do you have an opinion as to whether
12 that use of the landfill location proposed here would
13 adversely impact fresh water?

14 A. No, it would not.

15 Q. And would a clay liner enhance that protection?

16 A. Yes, it would.

17 Q. Now, how extensive is this Triassic redbed in
18 terms of geologic -- Does it extend, for example, beneath
19 the CRI site?

20 A. Yes, it does.

21 Q. And are you familiar with the hydrogeologic
22 investigation that CRI presented as part of its landfill
23 permit application?

24 A. I'm familiar with a report produced by Mr.
25 Wright. I've reviewed that, and I think I've reviewed one

1 or two documents on their permit, so...

2 Q. Let's just focus on Mr. Wright's document. First
3 of all, was there perched water -- is there perched water
4 beneath the CRI location?

5 MR. FELDEWERT: Mr. Examiner, I guess -- the CRI
6 location is not located anywhere near this facility. This
7 is -- this hearing is supposed to be towards Gandy Marley's
8 application for the landfill, and at this location, if we
9 go off on a rabbit trail on CRI's facility and the geologic
10 conditions underlying it or any other facility, we're going
11 to be here for a week. So I don't see the relevance of
12 this inquiry.

13 MR. APODACA: Is there a response from Mr.
14 Domenici?

15 MR. DOMENICI: Yeah, yes, absolutely.

16 Q. (By Mr. Domenici) As an example, if I could ask
17 a couple specific questions, did CRI's geologist indicate
18 what volume of water would be non-beneficial?

19 A. Yes, it did.

20 Q. And was that under the OCD permitting rules and
21 standards?

22 A. I don't recall that I reviewed the OCD rules on
23 that.

24 Q. But that was part of an OCD permit process?

25 A. Right.

1 Q. And what volume of water did Mr. Wright testify
2 was not beneficial?

3 A. I believe they were talking in the range of 1/10
4 of a gallon per minute, producing water. And it was
5 similar, as I recall, to what we see at the Gandy Marley
6 location.

7 Q. In terms of quantity?

8 A. In terms of quantity and gallons per day, right.

9 MR. FELDEWERT: I'm going to object on the
10 grounds of hearsay.

11 MR. DOMENICI: Let's get the report.

12 (Off the record)

13 Q. (By Mr. Domenici) Do you know Mr. Wright?

14 MR. FELDEWERT: Mr. Examiner, I guess I would ask
15 -- I didn't -- you know, these questions were coming. I
16 thought he was laying a foundation. I object on the
17 grounds of hearsay and ask that that portion of the
18 testimony be stricken. If they have a report, let's see
19 the report.

20 EXAMINER JONES: Do you want to? Want to see the
21 report?

22 MR. FELDEWERT: Well, I mean he's testifying that
23 somebody said something at another hearing, that would be
24 -- that's classic hearsay.

25 EXAMINER JONES: Okay, let's sustain the original

1 objection, and we will --

2 MR. APODACA: I think that renders your second
3 objection not necessary.

4 MR. DOMENICI: You sustain the objection?

5 MR. APODACA: Sustain the objection about hearing
6 testimony regarding CRI's previous application.

7 MR. DOMENICI: What's the basis for that ruling?

8 MR. APODACA: We don't have to give you a basis.
9 No, the basis is that this matter --

10 MR. DOMENICI: Well, I --

11 MR. APODACA: -- this matter is based -- this
12 matter is based on the Application of Gandy Marley. I
13 think CRI makes a good point that knowing what was the
14 assumption or what the standards were under a different
15 application is not necessarily relevant. Now, if you want
16 to sponsor a witness and testify -- have that witness
17 testify about the standards that are used generally by the
18 OCD, maybe the testimony can come in that way. But I don't
19 think we can allow the testimony to come through this
20 witness, to testify about what OCD requires. Fair enough?

21 MR. DOMENICI: I understand the ruling.

22 MR. APODACA: Thank you.

23 Q. (By Mr. Domenici) Dr. Mansker, as a geologist,
24 would the -- is there any reason why the same subsurface
25 soil -- or subsurface geology, would be protective of

1 perched water in one location and would not be protective
2 in another location, if the geology was basically the same?

3 A. If everything was basically the same, I don't
4 believe you could distinguish that one was a better or a
5 worse site than the other one was.

6 Q. As far as protection of --

7 A. Protection of the groundwater.

8 Q. Perched aquifer?

9 A. Perched or -- aquifer, right.

10 Q. And do you have an opinion as to whether the
11 subsurface geology at the CRI site is roughly equivalent to
12 the subsurface geology at the Gandy Marley site?

13 MR. FELDEWERT: Objection on the grounds of
14 relevancy and lack of foundation.

15 Q. (By Mr. Domenici) Have you studied the report on
16 subsurface geology?

17 A. Yes, I have. Yes, I have.

18 Q. And did that give you enough information to
19 determine what --

20 A. The only major difference between the two sites
21 -- they're sited very similarly, but the only difference is
22 that there are saltwater disposal lagunas associated with
23 -- in close proximity to the CRI site. Other than that,
24 the geology, stratigraphies are very similar. The amounts
25 of groundwater from perched water zones --

1 MR. FELDEWERT: I'm going to object this --

2 THE WITNESS: -- or very limited zones --

3 MR. FELDEWERT: -- his testimony --

4 THE WITNESS: -- is the same.

5 MR. FELDEWERT: -- on the grounds of relevancy
6 and lack of foundation.

7 (Off the record)

8 EXAMINER JONES: Can you --

9 MR. FELDEWERT: Let me explain. I don't want to
10 have to put on a case here --

11 EXAMINER JONES: Yeah.

12 MR. FELDEWERT: -- about the geology and the
13 water conditions under CRI's facility. So if this
14 testimony is allowed to be taken into account and
15 considered and accepted, that's going to force me to put on
16 an entire case about CRI's facility and its geology and
17 underlying water, to the extent there's any there.

18 MR. DOMENICI: Well, Mr. Marsh has stated
19 repeatedly he wants equal standards at equal facilities.
20 That was his opening statement, he's filed that in
21 pleadings, he said that at the emergency hearing.

22 We are following up exactly on the issue that he
23 brought into this hearing, equal standards and equal
24 application, and we should be entitled to pursue that once
25 he makes that an issue.

1 (Off the record)

2 MR. DOMENICI: And if they want to put on
3 testimony, we won't object.

4 (Off the record)

5 EXAMINER JONES: Okay, Mr. Domenici, we'll try to
6 keep this strictly to the 711 for the Gandy Marley
7 facility, and if we wanted to bring another application or
8 another case on, we could -- that could be subject to a
9 separate hearing.

10 But maybe you can couch it more in terms of water
11 off the caprock, on the caprock. And obviously he does
12 have extensive experience, and I know you want to use his
13 experience. But we probably don't need to go in that
14 direction that it seems like you're heading.

15 Q. (By Mr. Domenici) Well, Dr. Mansker, in making
16 your opinions about the applicability of environmental
17 regulations, do you look at the application in other cases?
18 Is that part of the typical way you handle your work?

19 A. Yes, it is. And I also -- as a part of that, I
20 try to look at how other facilities have been sited, based
21 on their geology and based on the conditions of the siting,
22 because that's important in comparing the site that I'm
23 working on to other sites. And I -- as a part of that, I
24 review the regional geology and I pinpoint where other
25 sites are located and how they might differ from the site

1 that I'm evaluating. And I find that, yes, the caprock is
2 fairly extensive throughout the area, and there are other
3 sites that have been permitted that are under almost
4 identical conditions to Gandy Marley's site, not naming any
5 sites, but that's the case.

6 And the groundwater conditions appear to be very
7 similar, the geology appears to be very similar, even so
8 far as the distance from the caprock-type rocks, the
9 Ogallala formation, potential aquifer. There's a lot of
10 similarities among these sites, and that's why they were
11 all chosen, I'm sure, was because of these geologic/
12 hydrogeologic conditions that are amenable to being
13 permitted to take these type of wastes.

14 I mean, in one area if it's permissible, then
15 another area very similar geologically and
16 hydrogeologically would be a very good place to look to
17 site another location.

18 MR. DOMENICI: That's all I have.

19 CROSS-EXAMINATION

20 BY MR. FELDEWERT:

21 Q. Mr. Mansker, could you take out Exhibit Number
22 15, please?

23 A. Yes, I have it here.

24 Q. That's the May 18th, 2005, report; is that right?

25 A. The May 18th, 2005, report by CMB.

1 Q. Turn to page 3. These are the producing rates of
2 the two wells that you were talking about, that you were
3 involved with in analyzing, correct?

4 A. Yes.

5 Q. Okay, and it indicates that the first well "may
6 produce an estimated sustained rate on...average of 154
7 gallons per day."

8 A. Which paragraph are you looking at?

9 Q. I'm sorry, the second bullet point, down at the
10 bottom of page 3.

11 A. Okay.

12 Q. "MW-1 may produce an estimated sustained rate
13 on...average of 154 gallons per day." Correct?

14 A. That's what the report says, right.

15 Q. Okay. Now it indicates, then, that the water was
16 of sufficient quantity that it was capable of entering a
17 well in this particular circumstance, right? And brought
18 to the surface to the tune of a sustained rate, on average,
19 of 154 gallons per day?

20 A. That's what the report says, yes.

21 Q. Okay, do you have any -- Do you disagree with
22 that?

23 A. I did not do the testing, so I rely on Mr. --
24 CMB's professional integrity and capabilities.

25 Q. Okay. And the second well has an estimated

1 producing rate of 206 gallons per day, correct?

2 A. That's what the report says.

3 Q. All right. Now -- And is it your opinion that
4 the Division should take absolutely no steps whatsoever to
5 try to protect this groundwater in this area that is less
6 than 10,000 TDS? Is that your testimony?

7 A. Just repeat the question.

8 Q. Is it your testimony that the Division should not
9 take any steps to protect this producible groundwater
10 referenced in this report in a circumstance where its TDS
11 is less than 10,000?

12 A. It's less than 10,000, but it's sufficiently
13 close to 10,000 that it's not useful for livestock and
14 therefore not useful for human consumption, and also the --

15 Q. Are you aware --

16 A. -- those --

17 Q. -- of the regulatory definition, defining what is
18 protectible groundwater?

19 A. It's 10- --

20 MR. DOMENICI: Well, I'm going to object. He was
21 answering the question. I'd like to let him finish.

22 MR. APODACA: Let the witness finish.

23 THE WITNESS: And so on a quality basis it's not
24 usable groundwater in my professional opinion, and also on
25 the volume of water that's producible out of these wells

1 it's not usable groundwater, volumetrically, quantitatively
2 or qualitatively.

3 Q. (By Mr. Feldewert) In your opinion?

4 A. In my opinion.

5 Q. Okay, and that opinion is rendered in a
6 circumstance where the State of New Mexico has determined
7 that the threshold for protectible groundwater is less than
8 10,000 TDS, correct?

9 A. Well, that's what the State says. But the State
10 also -- I have not reviewed what the EPA levels are, but
11 we've certainly -- from the thing that we couldn't find the
12 author on this morning, there's evidence that the EPA
13 guidelines are 5000 to 7000. And I believe the federal law
14 reads that the state regulations have to be in keeping with
15 the federal regulations; they cannot be less stringent.

16 So I would opt -- if I were evaluating, I would
17 opt for the lower standard.

18 Q. All right, let me ask you this. You're aware
19 that the State of New Mexico uses a 10,000-TDS standard to
20 determine what is protectible water, correct?

21 A. That's what this used, right.

22 Q. All right. Are you aware of the State of New
23 Mexico using any particular volume component to determine
24 when that water is --

25 A. I did not review that, I'm not aware of that.

1 Q. Okay. You said that this facility would not
2 adversely impact this groundwater underneath the proposed
3 landfarm site; is that your testimony?

4 A. That's my testimony.

5 Q. Is it your testimony that the sands that you --
6 Or let me ask you this. Is that based one -- When you say
7 it would not adversely impact the groundwater, what is the
8 basis for that statement? Is it the clay liner?

9 A. It's the composite of relatively impervious rocks
10 in the upper Dockum in which the small amounts of water
11 that we found occur, and there are unsaturated rocks above
12 those perched zones, or what I interpret as perched zones
13 in my opinion, and there's also unsaturated ground --
14 media, subsurface media, below those perched zones.

15 Q. Okay. Would you -- now you were -- and that was
16 based on -- the soil samples that you took out was based on
17 the two holes that were drilled around the facility, and
18 what did you call them?

19 A. MW-1 and MW-2 --

20 Q. MW-1 and MW-2.

21 A. -- were the -- was the data that I collected in
22 the field, the field data. But I also relied on Mr.
23 Bonner's well logs, because he's equally a professional, so
24 I believe that his lithologic logs are at least as correct
25 as mine are.

1 Q. Okay. Now Mr. Bonner is going to testify that in
2 his opinion the clays that are located in this area are not
3 continuous across this particular section. Do you disagree
4 with that?

5 A. Oh, that's probably true to some extent. Some
6 thicker layers are probably more continuous than others,
7 but in general that's the nature of the upper Dockum, is,
8 you have discontinuous lenses, you have discontinuous
9 layers of different thicknesses --

10 Q. So you may have --

11 A. -- throughout the area.

12 Q. -- a layer of clay in one area, right? And then
13 it just tapers off and all of a sudden you run into sand?

14 A. You may have, and you may have one that's fairly
15 continuous over a fairly large area.

16 Q. Okay. But what you -- all you can testify to
17 today is that from what you reviewed, there appears to be
18 some clay layers, but we can't say whether they're
19 continuous across the area or not?

20 A. We -- That can always be verified by additional
21 drill holes, if one so desired.

22 And we had a series of -- kind of a regional
23 investigation that was done in 1994, and that was -- the
24 purpose of that was to define areas where we thought there
25 were more or less chance of there being impervious layers,

1 or lack, or groundwater, or perched groundwater, whatever,
2 is try to delineate those areas, so...

3 Q. That was a much more detailed study than the two
4 holes that you drilled?

5 A. Well, our two were in proximity to that, and ours
6 were done for a different reason. Ours were done primarily
7 to install monitoring wells.

8 Q. And the two holes that you drilled, how far apart
9 were they?

10 A. I would say about 300 or 400 yards apart.

11 Q. So you just -- you just looked at a 300- to 400-
12 yard area in terms --

13 A. Not an area --

14 Q. -- of the soil?

15 A. -- it's just a plane in the lithologic section.

16 Q. So those soil samples you put up here were
17 roughly 300 or 400 yards apart?

18 A. Yes.

19 Q. Okay. Now, this report, which is marked as
20 Exhibit Number 3, do you have that?

21 A. Exhibit Number 3?

22 Q. Yes.

23 A. Which one? What is the title of it?

24 Q. It is the "Preliminary Geologic Investigation
25 Report", Exhibit Number 3.

1 A. Well, I don't seem to have it. Is that the --
2 report?

3 MR. DOMENICI: Yes.

4 THE WITNESS: Oh, this one? 1 and 2 --

5 MR. DOMENICI: Here it is.

6 THE WITNESS: Okay, I have it in front of me.

7 Q. (By Mr. Feldewert) Okay, and I'm looking on page
8 18 of that report. You've reviewed this, correct?

9 A. Yes, I have read this.

10 Q. Okay. And these -- this talks about the portion
11 -- this is the portion of the report where they drilled
12 holes across Sections 4, 5, 8 and 9 of this particular
13 area?

14 A. What paragraph are we looking at?

15 Q. I'm looking at the paragraph on the bottom of the
16 page 16.

17 A. On 16?

18 Q. Yes.

19 A. I thought you said page 18.

20 Q. I took you there, I was trying to -- I was trying
21 to -- or move things along here. But if you look on page
22 16 --

23 A. Okay. All right, titled geologic site
24 investigation, all right.

25 Q. And I'm looking at the bottom.

1 A. Okay, 4.2?

2 Q. Yes.

3 A. Okay.

4 Q. And they were looking at areas in Sections 4, 5,
5 8 and 9?

6 A. Right.

7 Q. Okay, and if you look on Figure 10, you see the
8 shaded area there, correct?

9 A. Right.

10 Q. That's the area they were investigating, and that
11 included Gandy Marley's landfarm, or the area of Gandy
12 Marley's landfarm operations?

13 A. I believe so, I'm not sure. I didn't review
14 which sections they were in. It says this first drilling
15 program investigated two areas. Right, okay. And that's
16 indicated here as overlapping 4, 5, 8 and 9.

17 Q. Well, you're aware that his landfarm operations
18 is there within that shaded area in areas --

19 A. Well, let me look on the map --

20 Q. -- 4 and 5?

21 A. -- and I'll tell you if that's what I believe.

22 Right, the lower portions, yes, it basically is
23 the lower portions of 5, 4, and the upper portions of 8 and
24 9.

25 Q. Okay. And if we go, then, to page 18 -- Are you

1 there?

2 A. I'm there.

3 Q. Okay, second paragraph, it indicates they bored a
4 total of 28 holes, correct?

5 A. Right.

6 Q. Okay, much larger -- much more in-depth study
7 than yours, of the geology?

8 A. Yes, it was --

9 Q. Okay?

10 A. -- in terms of drilling, number of drill holes,
11 yes.

12 Q. Okay. And the examination is not limited to 300
13 or 400 feet, it was limited to this area that's shaded on
14 Exhibit Number 10?

15 A. Okay.

16 Q. Okay? All right. And what they came -- and the
17 conclusion that this report came to was that this area
18 didn't meet the criteria -- I've talked -- we've addressed
19 that here today.

20 But there's a couple other points in here that
21 seem to be --

22 A. Well, what criteria? For what?

23 Q. The criteria for the Triassic Park site.

24 A. Okay, for an EPA/RCRA-type facility, right?

25 Q. Yes.

1 A. Okay.

2 Q. Okay?

3 A. That's what they determined, right.

4 Q. All right. And then it says here that they did
5 encounter -- there were some thick sequences of low-
6 permeability Triassic clays, right?

7 A. That's the next paragraph?

8 Q. Yeah -- well, I'm in the --

9 A. "While there were thick sequences of..." Right,
10 that's what you --

11 Q. And then it goes on to say, "...the thickness of
12 the overlying..." -- I'm not going to say that --
13 "...alluvium, ranged from 15 to 35 feet."

14 A. Right, that's the loose, windblown sand,
15 Quaternary alluvium, that's over the redbed, top of the
16 upper Dockum, right.

17 Q. Okay. In this particular area the alluvium,
18 then, is not limited to just a few feet, it's -- in this
19 particular area it ranged from 15 to 35 feet, right?

20 A. Well, I consider that's pretty shallow, and it's
21 Quaternary, so that means it's loose, unconsolidated
22 material. You can easily find windblown sands that are
23 that thick --

24 Q. Okay.

25 A. -- in the area.

1 Q. And then it says, "In sections 5 and 8..." which
2 include Gandy Marley's landfarm, right?

3 A. Right.

4 Q. "...Triassic sandstones were observed
5 underlying..." this alluvium. So underneath that 15 to 35
6 feet?

7 A. Right, I think that's reflected in Mr. Bonner's
8 logs, and I think I pointed that out, that there were some
9 thin sands underneath the alluvium, and that I alluded to
10 those as being colluvial sand, windblown deposits that were
11 derived from the underlying upper Dockum group --

12 Q. All right --

13 A. -- rocks.

14 Q. -- so in this particular -- but that's an area of
15 -- these sandstones would be in an area of permeability,
16 would it not? These are more permeable zones?

17 A. It would be near surface, right, and it depends
18 on -- site-specific on exactly how thick it was, right.

19 Q. Okay. So what we know -- what we know about this
20 area -- okay? -- what you and I can sit here and say about
21 this area right now, based on what we know -- what we've
22 seen here, is that there is perched groundwater that is
23 less than or right at 150 feet below his facility, right?

24 A. Yes.

25 Q. And that that groundwater is less than 10,000

1 TDS?

2 A. Well, I wouldn't agree -- I would agree on the
3 TDS, but I wouldn't say that it -- I wouldn't agree --

4 Q. I understand that --

5 A. Okay.

6 Q. -- I'm just -- I'm just trying to figure out what
7 you and I can agree to that we know.

8 A. Okay, I agree with you that it's unusable
9 groundwater, quantitywise and qualitywise.

10 Q. That's right.

11 (Laughter)

12 Q. (By Mr. Feldewert) The question was, we know
13 here today that that's less --

14 A. You said --

15 Q. That is less --

16 A. -- we're trying to agree, so...

17 (Laughter)

18 Q. (By Mr. Feldewert) All right, you and I know
19 here today that that is less than 10,000 TDS, right?

20 A. Well, it less than 10,000.

21 Q. That's what you guys established with your wells?

22 A. Right.

23 Q. Okay, and we also know that it's capable of
24 producing any -- in a range of a sustained rate of 154 to
25 206 gallons per day?

1 A. I believe that's based on the first pump test.
2 I'm not sure what -- it depends on what level they recover
3 to.

4 Q. Well, we can only go with what's in this --

5 A. Right.

6 Q. -- report, right?

7 A. Right.

8 Q. I mean, that's what they've provided us.

9 A. Well, I've been presenting new data that's only a
10 week old and --

11 Q. That's part --

12 A. -- we still --

13 Q. -- I understand that's --

14 A. Right.

15 Q. -- part of our problem, and I'm trying to get my
16 hands around this because we haven't seen it.

17 A. Well, we can't until we get the subsequent data.

18 Q. But what we know today, at this hearing, in which
19 they have the burden of proof, is that we know that it
20 yields 154 to 206 gallons per day, right?

21 A. Not from this report.

22 Q. I'm sorry, from Exhibit Number 15. We just went
23 through that.

24 A. Oh, okay, right.

25 Q. All right. And what we also know, sitting here

1 today, is that where there might be some clays, we can't
2 say it's continuous across this area of the landfarm, can
3 we?

4 A. Until we correlate the drill holes, we can't say
5 that.

6 Q. We cannot say that.

7 A. You can speculate, but you can't say it for
8 certain unless you have a lot of drill holes close together
9 where you can actually trace the beds from one to another.
10 And we've already established that it's typical of the
11 upper Dockum group that they are not continuous and that
12 they are very -- vary in thickness, and they vary in
13 lateral extent.

14 Q. So this is not a geomorphically stable area, is
15 it?

16 A. Define "geomorphic" for me.

17 Q. Oh, now you got me in trouble. All right.

18 But we also -- What we know here today is, we
19 also know that there are -- there's evidence of an alluvial
20 fan that's sloping down off the edge of the caprock,
21 correct? Into this area? It's a wash --

22 A. There are numerous Bolson-type deposits, if you'd
23 like to call them, little -- small pediments that come from
24 the degrading edge of the caprock, right, because it's
25 falling. That's at about 400 feet above the redbeds, so

1 any rock that falls from there will tend to roll downhill.
2 And so you will have pediment -- what you might call
3 pediment-type deposits, below the caprock.

4 The --

5 Q. And is it your testimony, Mr. Mansker, knowing
6 just what we know today about this particular site, and
7 we're talking about -- this is site-specific, okay? Based
8 on what we know about this particular site today, can you
9 sit here and tell the Division that they should approve a
10 landfill out there to accept these types of waste without
11 any kind of a liner?

12 A. I think you do not -- Yes, the answer is yes.

13 Q. You don't think you need a liner?

14 A. No. I believe the natural layering is a
15 sufficient liner, but I -- as I told you in the beginning,
16 I'm not an engineer. And we see evidence from samples that
17 have been taken in the landfarm parts that there's no
18 evidence of leaching, so I would be doubtful that you would
19 see that in a salt-storage cell as well.

20 My professional opinion is that you don't need a
21 liner, but an engineer might disagree.

22 Q. Okay. Give me one minute here.

23 I want to talk about your monitor wells real
24 quick, or what you call your monitor wells, okay?

25 A. Oh, I think everybody calls them monitoring

1 wells.

2 Q. All right. Is it important to put your
3 monitoring wells at a location that is dependent upon the
4 gradient of the water that you are trying to monitor?

5 A. It's important -- If the groundwater is
6 connected, it's important to place them so that you can
7 determine a groundwater gradient, yes. A single well will
8 not give you a groundwater gradient. Two wells will not
9 give you a groundwater gradient.

10 Q. Do we know what the groundwater -- I think Mr.
11 Corser testified that he thought this groundwater was --
12 had a gradient from east to west?

13 A. No, I believe that the dip of the beds of the
14 Dockum group is one degree west to east, and we can't
15 determine what the gradient of these perched zone are,
16 first of all because they're perched. They're not
17 necessarily -- they may be, but not necessarily,
18 interconnected. And the position of that water is
19 determined by the perched geologic media that they're
20 entrained in --

21 Q. So you --

22 A. -- and unless it's a continuous aquifer, you will
23 not be able to determine a gradient for the groundwater.

24 Q. So in terms of your monitor wells, you don't know
25 whether it's upgradient or downgradient of this -- of the

1 water, the perched area -- the perched water?

2 A. The only perched water we're aware of is what's
3 in our wells.

4 Q. Okay. Do you have an opinion as to where that
5 water is coming from?

6 A. Well, it could be a few sources, it could be
7 something even as simple and ancient as connate water that
8 was entrained at the time the sediments were laid down. I
9 would expect it would probably be a little more saline if
10 that was the case, but it may be being diluted by other
11 water.

12 It could be coming from leakage from the Ogallala
13 Aquifer, which is some 300 to 400 feet higher, so there's a
14 -- would be a hydraulic head if there were a leak into the
15 upper-Dockum-group rocks.

16 Q. So we may have water leaking down from the
17 Ogallala Aquifer into this particular area?

18 A. And if that is the case -- We know the Ogallala
19 is a relatively low-TDS, fresh water, so if it's leaking
20 down through the upper Dockum groups it's somehow being
21 contaminated by the Dockum-group rocks themselves to bring
22 the salinities up to 8900 or so.

23 So you would say that there is a natural
24 background salinity in the Dockum groups that could be
25 adversely affecting the Ogallala waters, if in fact that's

1 where they're coming from.

2 Q. And we had some groundwater in this area, did we
3 not, that was -- had a TDS as low as 4900, right?

4 A. I believe that was a deep well further south, was
5 it not?

6 Q. No.

7 A. I don't remember. It was MW- -- What was it,
8 WW-1, WW-2 or PB-14? I don't remember --

9 Q. PB-14.

10 A. -- which one. PB-14?

11 Q. That was a shallow well, right?

12 A. Was it? I don't -- I'd have to look at the log
13 and see. I'm sure I've reviewed it, but I'd have to look
14 at it again to tell you.

15 Q. Okay.

16 A. But that could be the same mechanism.

17 Q. So in one area we had TDS of 4900, right? But
18 your -- in this --

19 A. That was in the 1993 drilling, right.

20 Q. -- in this particular site we know that there was
21 less 10,000, we just -- and we're not quite sure where the
22 water's coming from. Is that a fair statement?

23 A. That's fair. It's coming from out of the ground.

24 (Laughter)

25 MR. FELDEWERT: That's all I have.

1 EXAMINER JONES: Dr. Neeper?

2 DR. NEEPER: No questions.

3 EXAMINER JONES: Oh, I'm sorry, Ms. MacQuesten?

4 MS. MacQUESTEN: No questions.

5 REDIRECT EXAMINATION

6 BY MR. DOMENICI:

7 Q. Dr. Mansker, do you know where the perched water
8 is going, that you said --

9 A. I don't believe it's going anywhere, because if
10 it's truly perched and it's in discontinuous, lensoid-type
11 water deposits, it's probably just sitting there, not going
12 anywhere, until you pump it.

13 MR. DOMENICI: That's all I have.

14 EXAMINATION

15 BY EXAMINER JONES:

16 Q. Dr. Mansker, the caprock is a structural event or
17 what? I mean, is it a structural -- structural or is it --

18 A. I guess, to use geomorphic technology -- or
19 terminology, it's geomorphically structural. But it's not
20 geophysically -- or it's not a structure in that it's an
21 uplift or anything. It's just -- the Ogallala was
22 deposited on top of the Dockum group, and it's just -- it's
23 geomorphic in that it's being eroded back toward the east
24 in this particular zone, and we're just seeing the remnant
25 edge of the Ogallala formation there.

1 Q. Okay, out of the Pecos River on the west,
2 drain- --

3 A. Yeah, right, yeah.

4 Q. There was talk earlier about the beds dipping to
5 the east a tiny bit, and then a little bit further west
6 dipping slightly to the west; is that --

7 A. Yeah, that's -- that's the case, over around
8 Roswell you do have some structural features that -- some
9 faults and other structural features that distort the beds.

10 But in general, from the Pecos River on to the --
11 say to Tatum, you're looking at like a one-degree slope.
12 At least what I've been able to determine from the geologic
13 literature, you're looking at about a one-degree slope.
14 And you actually -- the further you go west, the more you
15 start -- when you do see an outcrop, you're getting into
16 the lower Dockum and even some of the anhydrite beds below
17 the Dockum towards -- right next to Roswell there, so...

18 Q. How much further down is it to the Permian in
19 this area?

20 A. It's been determined, I guess, that it's -- it's
21 been estimated to be about 1000 feet. And at 800 feet, I
22 think the reason they stopped drilling there is, they were
23 -- in the 1994 period was, they were concerned about
24 getting into the Santa Rosa formation, which does have
25 relatively -- some fresh water in it, and that lies just

1 above the Permian, so...

2 Q. So it's at the basal --

3 A. Yes, the --

4 Q. -- Dockum --

5 A. -- basal --

6 Q. -- or the --

7 A. -- gravelly sand is what it is. It's a good
8 aquifer --

9 Q. I see.

10 A. -- yeah, but...

11 Q. And why -- I've been told before, but why are
12 these Triassic and some Permian rocks red?

13 A. It just has to do with when they were deposited.
14 They were deposited under oxidizing conditions, shallow,
15 lake-type conditions, is what the lower Dockum was, and
16 it's basically a reflection of the iron in the formation.
17 If it's oxidized iron it's going to be red, like rusty red,
18 and if it's a reduced iron it's going to be darker. And we
19 see some evidence for some darker gray layers in there, so
20 it's conceivable that there are some geochemical things
21 going on that are reducing some of the iron to a darker
22 color.

23 But all in all, just about everywhere you see
24 these redbeds -- they're worldwide, and they're fairly
25 correlatable in a gross sense with fossils and whatever, as

1 basically redbeds. It's Triassic red, when you think
2 redbeds.

3 Q. But they're not sea deposits at all?

4 A. They are shallow marine-estuary-type deposits.
5 Some of them are freshwater. And I think it varies
6 geographically around the world, but most of all it was
7 these -- as the continents started breaking up, it started
8 forming these very, very shallow basins that the seawater
9 collected in. And the anhydrite in the Permian, that's
10 definitely seawater, because that's a gypsum-type deposit
11 that precipitated in a restricted-basin-type environment,
12 so...

13 Q. You've got the redbeds, and then as you go deeper
14 you get the rust anhydrite?

15 A. Yeah, and actually the Permian rocks are redbeds
16 too. They're red as well.

17 Q. Okay. Now, one of these maps showed some of the
18 -- I think it was the Dockum group, had a -- south of this
19 site, some sands going from east to west, one of these --

20 A. I don't recall, and I don't know if it was the
21 upper Dockum or the lower Dockum.

22 Q. Are you familiar with that sand, east-west sand?

23 A. If you're deep enough into the Dockum, you're
24 going to get into the Santa Rosa formation. If it's -- It
25 comes with the surface. If you look at this Figure 4, I

1 think, in the same report, you can see this is --

2 Q. That's it, that's --

3 A. -- structurally what's going on here. These were
4 the directions of sediment transport into this big basin --

5 Q. Okay.

6 A. -- and we're sitting kind of on the western side
7 of that basin, so they're dipping -- the rocks are dipping,
8 where we are, back toward the center of the basin at one --
9 this one degree or whatever. I'm sure it's variable, but
10 that's...

11 Q. So this side is right north of that east-west
12 little lens, right in the center --

13 A. Right here.

14 Q. -- of that. That's Figure 4 of Exhibit --

15 A. Oh, I see, it says, "30-60 Percent sand". That's
16 probably upper Dockum, then --

17 Q. Okay.

18 A. -- because that's probably an estuary, like a
19 small streambed or something that -- and you see a lot of
20 these up around Farmington too, where -- in that sandstone,
21 you look in a sandstone wall and you'll see cuts that are
22 filled with gravel, and those are old arroyos or stream
23 channels.

24 And this is probably a very similar thing that
25 came from some highland over here to the west -- I don't

1 know what it would be -- and that's what these lenticular-
2 looking things, are probably more like estuaries, so...

3 Q. What kind of water would they have in them?

4 A. Well, at one time, when they laid down, they
5 would have had fresh -- probably fresh water in them, and
6 -- if it was truly an old stream bed, it would have been
7 fresh water. But that was back 80 or 150 million years
8 ago, so...

9 Q. Well, there is some variability --

10 A. That's very typical --

11 Q. -- in this Dockum --

12 A. -- of the upper Dockum, yeah. And the base of
13 the Dockum is outlined in this dotted line that goes around
14 here. And so that would be the basal Dockum. So I would
15 guess within that dotted line -- and the unshaded areas is
16 probably lower Dockum clays and stuff.

17 Q. Okay, but as far as permitting landfill sites,
18 facilities in this Dockum, it would depend on where you're
19 at, wouldn't it, whether you were going to have any water
20 to protect or not?

21 A. Well, I would lay odds that unless you get into
22 the lower Dockum, get into the Santa Rosa formation, you're
23 going to find -- and that's what I was getting interrupted
24 saying before, that I've looked at several of the sites
25 along here, and they're all basically in the same geologic

1 configuration. Their locations and their siting and their
2 settings are all very, very similar, so... And that's
3 probably why, because these sites are pretty good areas to
4 put these facilities, and so... There's probably room for
5 more, several more of them along the way there.

6 Q. The -- You were talking about hydraulic
7 conductivity of 10^{-6} and 10^{-8} .

8 A. I've seen some data on some of the samples that
9 were sent in in 1994 that showed those levels. And we have
10 some -- we took a couple of split-spoon samples out of our
11 monitor well borings, and we have those in the lab, but we
12 don't have that data back, so we can't say yet. But one
13 section was taken in that -- about 40-foot section of pure
14 clay that I was talking about earlier in my testimony, but
15 -- The data is not back on that, but I'll -- I would stake
16 my opinion on it being at least 10^{-8} , if not tighter, so...

17 Q. But to define your -- the plane that would
18 include the lens below this landfarm, or landfill, you need
19 not only a straight line of wells, but you need another --

20 A. Yeah, you need three-dimensional control over
21 what you're looking at, right. And you would need much
22 more detailed -- you would probably want to core-sample the
23 entire section. You wouldn't want to do it with air
24 rotary, you'd want to actually take a core sample. Then
25 you can correlate down on, you know, a millimeter-type

1 basis, where these beds are and everything, so...

2 Q. This neutron log, was it a sidewall neutron?

3 A. I don't know what it was, I didn't do the logs,
4 so...

5 Q. But the scale is opposite of what I'm used to in
6 the oil patch. It's going to the right instead of
7 increasing to the --

8 A. Oh, I don't know --

9 Q. -- left.

10 A. -- I didn't pay that much attention to it. I
11 just know that the gamma and the neutrons are kind of
12 opposite of each other as you go down the hole.

13 Q. It's a typical geophysical log.

14 A. Log.

15 Q. But you don't set a porosity scale on that
16 neutron log, right?

17 A. I've not been close to any logging myself, so I
18 couldn't tell you. You know more about it than I do,
19 probably, so...

20 Q. Well, I know it used to be done in the old-style
21 gamma-ray/neutron logs, they'd set a logarithmic scale on
22 -- overlay it, and then draw their porosity numbers off of
23 that. So I didn't know if you were aware of --

24 A. I'm not --

25 Q. -- a porosity number in these rocks.

1 A. I've never worked in the exploration phase of oil
2 and gas, it's always been in the messy afterward states.

3 Q. Okay. And this -- the flow tests on these wells,
4 you were on these two wells that -- they --

5 A. I put the --

6 Q. -- turned out to be monitor wells, right?

7 A. Right, I put the well -- I had the driller put
8 the wells in.

9 Q. And did you see them do the flow test, the pump
10 test?

11 A. He was doing number 1, MW-1, while I was drilling
12 MW-2, and -- so I didn't actually see him do them, but --
13 matter of fact, I never even got to meet him, because I was
14 busy drilling, he was busy testing. And then he came in
15 the day after that, I think, and tested our second well,
16 and I was already back in Albuquerque by then, so...

17 Q. Are you familiar, though, with -- One of them was
18 200 gallons a day, estimated constant flow or constant
19 yield. Are you familiar with that as a typical yield of
20 a --

21 A. -- Dockum group.

22 Q. -- of a Dockum group, or is it totally --

23 A. That's what I have seen, and that's what I was
24 trying to allude to in my rejected testimony about another
25 site, was there's a very similar quantity/quality

1 relationship there too, so...

2 Q. That works out to be how many gallons a minute?

3 A. Well --

4 Q. It's less than a half a gallon a minute?

5 A. -- we're talking per day, so take -- divide it by
6 24 and divide it by 60 and you'll get gallons per minute,
7 so...

8 Q. One-seventh of a gallon a minute.

9 A. So -- yes.

10 Q. Around one-seventh of a gallon a minute.

11 A. That's a pretty small amount if you're trying to
12 use it.

13 And we don't -- we don't have any subsequent well
14 tests, there's no long-term pumpdown test on it to -- You
15 could see a hint, though, when you look at the graphs that
16 he's got in there, you can see a hint that they're dropping
17 off in their production, the longer he pumps them.

18 You can tell that simply by the fact that it's
19 not a straight line. If it were recovering at the same
20 rate that he was pumping it, this would be a very straight
21 line, but if you just take this piece of paper and fold it
22 over from the origin, you can see -- from point to point,
23 you can see that it's pumping down, and then it's starting
24 to taper off again, so the recovery rate on the -- is
25 dropping off with time, and --

1 Q. But wasn't these two the lowest-yielding wells
2 out there, and so they were made into monitor wells?

3 In other words, the PB-1 and the PB-2 --

4 A. They didn't put any wells in there. They did --
5 There were no pump tests done on those --

6 Q. Oh, okay.

7 A. -- so as far as I know, those were not completed
8 as wells.

9 Now, what you need to do is -- the most critical
10 factor on these wells is to pump them and see what point
11 they recover to. If they don't ever recover absolutely to
12 where they were originally, that means you're pumping a
13 fixed volume of water that's in a restricted volume there,
14 and you pump it out and it comes back up in the well, but
15 it doesn't come all the way up, so...

16 Q. How far up would it come in the well?

17 A. Well, I'm talking about if you measured it at 150
18 feet and you do a pump test on it and it comes back at
19 150.5 feet, it's not recovering all the way. So there's
20 not enough water there to recover it back to its original
21 level.

22 Q. Okay.

23 A. So you -- There's a thousand gallons in this
24 little lens and you took out 900, it's not going to measure
25 the same level, so...

1 Q. Okay.

2 A. So that's a good indication to me that there's a
3 limited supply of water there, so...

4 EXAMINER JONES: Okay, thank you.

5 MR. DOMENICI: May I follow up, a couple things,
6 couple points you raised?

7 FURTHER EXAMINATION

8 BY MR. DOMENICI:

9 Q. The -- As I understand it, there are three wells
10 that you actually have the drill cuttings from?

11 A. Yeah, that's the --

12 Q. There are --

13 A. -- I don't know if there are more or not, but I
14 was given PB-1 on my first visit because I wanted to look
15 at the well log, see what the lithology looked like.

16 Q. So two are on site, and one is at the corner of
17 the site?

18 A. Basically, yeah --

19 Q. And then --

20 A. -- but it's within 30 or 40 feet, I think.

21 Q. And then you had -- the well logs you read are
22 three other borings that went right through the middle of
23 the site; is that correct?

24 A. I don't understand, I guess. You mean those
25 geophysical logs?

1 Q. Yes.

2 A. I don't know where --

3 Q. We marked those, I think you showed on the map
4 where those were.

5 A. Yes, I -- yeah, they're up on the --

6 Q. They're on the road, basically?

7 A. Here's PB-1, PB-26, PB-27, and then we put our
8 well -- here's Monitor Well-2 and Monitor Well-1 here.

9 Q. So you have five -- at least five data points?

10 A. Yeah, but only two permanent ones, or two monitor
11 wells.

12 Q. The other three, you have logs going all the way
13 down at least to where you encountered perched water?

14 A. They're what I would classify as geological
15 hearsay. I didn't do it, so...

16 Q. But you've read those logs from --

17 A. Yes.

18 Q. -- Mr. Bonner?

19 And they're consistent --

20 A. And I've relied on Jim Bonner's lithologic --

21 Q. So when you say "geological hearsay", reliable
22 geological --

23 A. Right.

24 Q. -- hearsay?

25 So you have five data points, essentially, that

1 you've used --

2 A. Basically, yes.

3 Q. -- to base your opinions on, site-specific, along
4 with your general information, but other -- immediate
5 studies and then regional information?

6 A. Yes.

7 Q. Is that sufficient for you to render the opinions
8 you gave?

9 A. I believe it is, because I believe we have fairly
10 well determined what the lithologies are. They may not be
11 exact from one well to another, but we pretty much
12 understand what the lithology is there, and it's very
13 similar to the lithology -- stratigraphic section that we
14 see elsewhere. I think we have enough data to make a
15 rational decision.

16 Q. I think you were asked about the -- your opinions
17 regarding the hydraulic conductivity of the rock material,
18 by the Hearing Examiner, and you indicated you were waiting
19 for data. I have some of the data that just came in.

20 Let me hand you GMI-24 [sic]. Can you identify
21 that, please?

22 A. It is a report from D.B. Stephens, Daniel B.
23 Stephens, on the sample that I indicated from my drilling
24 logs was about that 40-foot-or-so-section of fat, tight
25 clays.

1 Q. And which well was that in?

2 A. That was in Monitor Well-2.

3 Q. And what is the conductivity?

4 A. Well, it's 2.5 times 10^{-9} . Anything less than
5 10^{-6} or 10^{-7} is considered impervious. So this is two
6 orders -- at least two orders of magnitude more impervious
7 than what people consider impervious.

8 Q. So 100 time more than what is considered
9 impervious? And show us --

10 A. A hundred times less permeable, so...

11 Q. -- show us on the visual up here where that is.

12 A. Well, I've already described it from my log, and
13 it falls in the range of Monitor Well-1, right below this
14 gray layer, and it goes down about 40 feet.

15 Q. Show the Hearing Examiner.

16 A. Here's where the landfarm is, up here. We're
17 down at this level, and from here down to about this
18 interval in here for sure is clay, and I believe some of
19 these others -- yeah, these are clay balls. So that clay
20 unit is in here about that thick.

21 Q. Does that help confirm your earlier testimony?

22 A. I think I stated earlier in my testimony I
23 expected this to come back 10^{-9} --

24 Q. I move --

25 A. -- that's a pretty good guess.

1 MR. DOMENICI: I move admission of Number 24.

2 MR. APODACA: Before we hear from Mr. Feldewert,
3 is this 24 or 26? Because I think I have a record of 24
4 and 25 being submitted earlier.

5 MR. DOMENICI: It's 26 then. Will you change
6 that to 26 --

7 THE WITNESS: 26?

8 MR. DOMENICI: -- Bill?

9 MR. FELDEWERT: Mr. Examiner, this is the type of
10 information that I was talking about that was addressed
11 with our motion. I understand your ruling. We're getting
12 all this stuff piecemeal in today, even the day of the
13 hearing, and I understand your ruling, so...

14 MR. APODACA: All right, we'll take it subject to
15 your continuing objection and our provisional acceptance.

16 MR. DOMENICI: Thank you. And I move admission
17 of Exhibits 24 and 25.

18 MR. FELDEWERT: I think we just addressed that.
19 Whoops, 25.

20 MR. DOMENICI: Those are the two --

21 MR. APODACA: Are those the well logs you're --

22 MR. FELDEWERT: I'm sorry, which -- catch up.
23 What is -- the one -- the May 23rd letter we just got, is
24 that --

25 MR. APODACA: That's 26, I'm sorry.

1 There were the two drilling logs for MW-1 and
2 MW-2.

3 MR. FELDEWERT: I don't have any objection.

4 EXAMINER JONES: Number 24 and 25 are admitted to
5 evidence.

6 MR. DOMENICI: No further questions.

7 EXAMINER JONES: Anything else for this witness?

8 Thank you, Dr. Mansker.

9 THE WITNESS: Thank you very much.

10 EXAMINER JONES: Let's take a 10-minute break.
11 Let's come back, actually at five o'clock.

12 (Thereupon, a recess was taken at 4:46 p.m.)

13 (The following proceedings had at 5:06 p.m.)

14 EXAMINER JONES: Let's go back on the record.

15 And Mr. Domenici --

16 MR. DOMENICI: Since we've taken the break, I
17 would like to recall Dr. Mansker to make an offer of proof
18 on the CRI permit. Since you've refused to allow that
19 testimony, I think I need to make a record of what is in
20 that permit. And I can...

21 (Off the record)

22 EXAMINER JONES: Okay, I've been instructed on
23 events as they may happen here, so go ahead, Mr. Feldewert.

24 MR. FELDEWERT: Well, I think whether you make an
25 offer of proof or you offer the testimony as part of the

1 case, you are -- you know, you're going down a path into an
2 area that's not relevant at all to this site.

3 Mr. Mansker has testified that he based his
4 opinion on other sites within the area. I don't see what
5 CRI's -- data specific to CRI adds to his testimony
6 whatsoever, so I don't see any relevance to that testimony.
7 So I would object.

8 You're taking time out of this hearing on their
9 Application to go into the site specifics of CRI or any
10 other facility.

11 MR. APODACA: How much time are you going to
12 take, Mr. --

13 MR. DOMENICI: Fifteen minutes.

14 MR. APODACA: -- Domenici?

15 MR. DOMENICI: I'm only going to go through the
16 geo- -- geohydrological report, which is a short document.
17 In that document we talk about basically the criteria --
18 the same way they applied the criteria he's applied in this
19 case, what the subsurface geology is, what they -- where
20 they found water, the pump test results, and why they said
21 it wasn't beneficial, couldn't be beneficial use.

22 (Off the record)

23 MR. APODACA: Mr. Domenici, what we're going to
24 do is, in order for you to be able to preserve your
25 position in this case and in any subsequent proceedings

1 that evolve after this case, we will hear that testimony.
2 But of course it's already been deemed not admissible, not
3 relevant, but we'll allow you to make that record, and Mr.
4 Feldewert can proceed to do an examination of the parties
5 as well.

6 MR. DOMENICI: Thank you.

7 (Off the record)

8 MR. DOMENICI: Mr. Hearing Examiner, I have two
9 copies of this report.

10 I'd like to proceed, but if we do take a quick
11 break I can have copies made. I'd like to tender the
12 report as part of the offer of proof and then have Dr.
13 Mansker testify off it.

14 If there's a way we can share that -- I don't
15 know if you have a copy of this.

16 MR. FELDEWERT: No, I mean, this is totally
17 unexpected, and it's not part of the prehearing -- They
18 didn't even mention this in their prehearing statement.

19 MR. APODACA: Now -- understand your objection.
20 How long --

21 MR. DOMENICI: I think we did mention it, that we
22 would -- we have looked at other --

23 MR. APODACA: Well, I understand his objection, I
24 didn't say -- but what -- You have a report?

25 MR. DOMENICI: Yes.

1 MR. APODACA: Just one report?

2 MR. DOMENICI: I have two copies of it, but it's
3 just one report, their geo- -- geohydrologic report.

4 MR. APODACA: Why don't you give one to Mr.
5 Feldewert and one to the witness. We'll follow along best
6 we can.

7 MR. DOMENICI: I'll mark this as --

8 MR. APODACA: I think we're up to 27.

9 MR. DOMENICI: -- 27.

10 Q. (By Mr. Domenici) Dr. Mansker, identify Exhibit
11 27, will you?

12 A. It's titled "Proposal for an Oil Treating Plant
13 Permit and Surface Waste..." -- Disposable -- "...Disposal
14 in Lea County, New Mexico...for Controlled Recovery Inc.,
15 Hobbs, New Mexico, February, 1990, by James T. Wright,
16 Consulting Hydrologist".

17 Q. Have you reviewed that report?

18 A. Yes, I have.

19 Q. Have you reviewed the transcript of the hearing
20 that CRI had?

21 A. Yes, I have.

22 Q. And was that report testified to by Mr. Wright at
23 that hearing?

24 A. Yes, it was.

25 Q. And what are Mr. Wright's qualifications?

1 A. I don't recall what his qualifications are. He's
2 a consulting -- a consultant out of Roswell.

3 Q. Do you know him?

4 A. No, I do not.

5 Q. Okay. I want to just focus you on a couple key
6 issues here.

7 First of all, what was the subsurface geology
8 that he described underneath the CRI facility?

9 A. He described the --

10 MR. FELDEWERT: I will object to the extent that
11 this is premised upon testimony at the hearing because we
12 do not have that before us.

13 If he wants to go to portions of the report,
14 that's one thing.

15 If what he's testifying to includes what he
16 believes was said at the hearing, then that's something
17 different.

18 So I would object to the extent -- I would object
19 to this testimony to the extent that it's not based on what
20 is in this report.

21 Q. (By Mr. Domenici) Based on this report, what was
22 his -- what was his -- what did his report say was the
23 subsurface geology?

24 A. On this section on page 2 under "Local Geology",
25 he explains the location. And it says,

1 "The Quaternary alluvium in the immediate
2 vicinity of Section 27 varies in thickness from 0 to
3 45 feet. The underlying..." -- beds of Triassic --
4 "...redbeds of Triassic and Permian age are
5 approximately 800 feet thick. These formations
6 consist predominantly of clays and siltstones, but
7 some very fine grained sandstone may also be present.
8 The upper part of these Red Beds is believed to be
9 Chinle Formation...the lower portion [the] Dewey Lake
10 Red Beds. These formations are underlain by the
11 Rustler Formation which is about 300 feet thick
12 underneath the site area. The Rustler Formation
13 consists primarily of anhydrite or gypsum with some
14 limestone and clays."

15
16 Q. What was his description of the subsurface
17 hydrology in that -- pursuant to that report?

18 A. I'll read portions of this. I don't think I need
19 to read all the locations.
20

21 "The alluvium at the proposed site..." -- this is
22 out of the "Hydrology" section -- "...is less than 45
23 thick with the thickness of the saturated sediments
24 varying from 0 to 8 feet." "Saturated", I'm
25 presuming, with ground water. "...ground water

1 movement through the alluvium in the vicinity of the
2 proposed site is toward the playa lakes [or] (Laguna
3 Toston and Laguna Plata). The water table gradient is
4 approximately 15 feet per mile. Recharge to the
5 aquifer is from rainfall which only averages about 9
6 inches per year in this area and..." is consequently
7 "...not considered to be a significant source of
8 recharge.

9 "A bailing test..." run -- "...ran on test hole
10 #5 on November 9, 1989 by Ken Marsh indicates that the
11 permeability of the water bearing formation is very
12 low. [The] Hole bailed dry in 1 hour. Bailing test
13 produced 2 gallons of water in 15 minutes or .13
14 gallons per minute. Test Hole...3 was dry when
15 completed on November 1... On November 9...the fluid
16 level was 41.1 feet below [the] land surface...on
17 November 21...it was 32.56 feet below [the] land
18 surface. Test hole...7 had a fluid level of 49.07
19 feet below land surface on November 1...38.25 feet on
20 November 9, 1989, 33.31 feet on November 21, 1989 and
21 33.33 feet on January..." 6 -- "...26, 1990. The long
22 period of time that it took the fluid to reach
23 equilibrium in the holes is also an indicator of low
24 permeability. Although..." there are -- "...there is
25 some water..." "...some water in ground water storage

1 beneath the proposed site, it is not economically
2 feasible to produce this water due to the extremely
3 low yields. Most of the ranches in this area of Lea
4 County obtain their water from water transmission
5 lines which deliver Ogallala water from the wells in
6 the Buckeye area to...potash mines located in western
7 Eddy County."

8
9 And then it goes on with the quality:

10
11 "Ken Marsh had water samples collected from all
12 of the holes in the vicinity of the proposed site on
13 February...1990. These samples were analyzed by
14 Rozanne Johnson, Bacteriologist for the City of Hobbs
15 laboratory. According to Mr. Marsh, it was her
16 opinion that the water was unfit for human or animal
17 consumption." And "Copies of her analysis are..."
18 attached.

19
20 "Summary and Conclusions

21 The alluvium in the vicinity of Section 27,
22 [Township] 20 [South], [Range] 32 [East] is thin and
23 contains only minimal..." qualities -- "...quantities
24 of ground water. Production of this water from wells
25 is not feasible...to the..." -- "...due to the low

1 well capacities. The only water wells presently being
2 used are located over one mile east of the proposed
3 site and are up gradient from the water table altitude
4 at the proposed site. Microbiological water reports
5 of the shallow ground water underlying the proposed
6 site indicate...the water is not potable.

7
8 "In my opinion the disposal of brine..." on
9 "...the surface pits at the proposed site located in
10 Section 27...will not contaminate any fresh ground
11 water supplies. Water from these pits will migrate
12 downward until it reaches the base of the alluvium.
13 Since the upper part of the Triassic is relatively
14 impermeable the water will move laterally down
15 gradient and eventually discharge into the playa lakes
16 located to the north..."

17
18 Q. Does .12 gallons per day permitted equal 187
19 gallons per day?

20 A. I don't have a calculator, but if the -- whatever
21 that value is, times 60 to get how much in an hour, times
22 24 to get how much in a day.

23 Q. And if it is 187 gallons per day, how does that
24 compare with production at the two wells you drilled?

25 A. It's very comparable.

1 Q. And in terms of the ability -- in terms of where
2 that water is located, is that shallower or deeper than the
3 water at -- in the drills you welled -- the wells you
4 drilled?

5 A. He's inferring that it runs along through the
6 alluvium to the top of the upper Dockum beds and then runs
7 along that, so it's much shallower.

8 Q. And can you see what the TDS is of that water, in
9 that --

10 A. I don't believe TDS was measured in what he
11 referenced here --

12 Q. Okay.

13 A. -- and so -- and I don't know that there is a
14 non-coliform -- I looked at the analytical -- from the
15 bacteriologist, and there's no information about the TDS
16 values.

17 Q. How could you -- How could you cure coliform?
18 How would you treat for coliform, if you wanted to drink
19 this water?

20 A. Well, it would have to be some kind of a
21 bacteriologic treatment. It was not coliform, it said it
22 was a total too numerous to count on non-coliform bacteria,
23 so I'm not sure what kind of bacteria they were. There is
24 some TDS data somewhere, and I don't know if it's in that
25 report or not. And the maps are also not attached to that

1 report.

2 Q. Wouldn't the TDS numbers be important?

3 A. That would be -- I don't believe that the OCD has
4 a requirement for bacteriological testing of water for any
5 particular standard level.

6 There should have been TDS, because that's one of
7 the criteria that's done, and I do recall seeing some TDS
8 values on some of the wells in the area, but I don't know
9 if it came from that report or not.

10 Q. In your opinion, which facility is -- with
11 respect to which -- these two facilities, which one is the
12 subsurface geology more protective of the perched water?

13 A. Well, certain --

14 MR. FELDEWERT: Objection, lack of foundation.

15 Q. (By Mr. Domenici) Do you have enough information
16 to compare these two sites?

17 A. Yes, we have depth to groundwater, or depth to
18 water, whether it's perched or whatever. We have that
19 information both in this report and in the Gandy Marley
20 reports.

21 Q. And which one is more protective?

22 A. I believe the Marley -- Gandy Marley site is much
23 more protective because the water is located 130 -- or -40
24 feet or so below the surface, and it has the entire upper
25 Dockum as an impervious setting to prevent anything from

1 migrating down.

2 And the other site has -- that we were referring
3 to, the CRI site, has zero to 45 feet of alluvium to water,
4 which is going to be much more permeable to downward
5 movement, and that -- so that water would be impacted much
6 more easily, based on the geologic conditions than the
7 Gandy Marley site.

8 Q. Let me ask you to look at the back of this
9 report, which appears to show some TDS calculations. Are
10 those the TDS numbers you referred to?

11 MR. FELDEWERT: I'm sorry, what are you referring
12 to?

13 MR. DOMENICI: It's about the back four or five
14 pages in the report.

15 THE WITNESS: Yes, well number 2A shows a TDS of
16 1190 parts per million.

17 Well number 6 -- and I'd have to have the map to
18 refer to where they are located -- has a TDS of 1925 parts
19 per millon.

20 Well number 5 has a TDS -- oh, excuse me, a
21 question-mark TDS. It has a total chlorides, which is not
22 TDS, of thirty- -- exceeding 37,000. So you can infer that
23 the TDS is probably pretty high.

24 The same is true for Monitor Well 1A. It has a
25 50,000 specific conductance and over 136,000 chlorides, but

1 there's no TDS calculation, so we don't know what the TDS
2 values are.

3 Q. (By Mr. Domenici) So two of those reported wells
4 have TDS --

5 A. Three, there's another one.

6 Q. Go ahead.

7 A. Monitor Well 3A also is in the same category of
8 greater than 50,000 on specific conductance, chlorides
9 exceeding 95,000, and TDS as question marks.

10 Q. So two of those wells have TDS less than 2000?

11 A. Two of the wells are less than 10,000 [sic], and
12 three are something above -- I would presume above 10,000,
13 based on the data that's there.

14 Q. Based on the information from that report, if the
15 OCD applies the same criteria for protection of fresh water
16 in this case as it did in that one, do you have an opinion
17 whether the Gandy Marley proposal is protective of
18 groundwater?

19 A. In my professional opinion, the Gandy Marley
20 proposal is more protective of groundwater.

21 MR. DOMENICI: That's all I have.

22 MR. FELDEWERT: I have no questions.

23 EXAMINER JONES: Is there any questions, Mr.
24 MacQuesten -- Ms. MacQuesten?

25 MS. MACQUESTEN: No questions.

1 MR. DOMENICI: Thank you, Dr. Mansker.

2 THE WITNESS: Do you want this?

3 MR. DOMENICI: I'll just leave Exhibit 27 as
4 tendered and not admitted, if that's okay.

5 I'll call Ed Martin.

6 MR. APODACA: Before you do, Mr. Domenici, I'd
7 just like to get an idea of how long Mr. Martin's testimony
8 will be, because during the break Mr. Feldewert indicated
9 that he was willing to have Dr. Neeper actually proceed
10 after the conclusion of your case, because Dr. Neeper will
11 not be available tomorrow for presentation of his case.

12 So if you're thinking of taking another couple of
13 hours, that might foreclose Dr. Neeper's opportunity. So I
14 was just going to get a rough idea how long Mr. Martin's
15 testimony will be.

16 MR. DOMENICI: Less than a half hour, I
17 anticipate.

18 MR. APODACA: Dr. Neeper, will that give you
19 enough time?

20 DR. NEEPER: I can last all night.

21 MR. APODACA: Well, you may be able to. The
22 lawyers might not be able to, and the audience certainly...

23 (Laughter)

24 DR. NEEPER: That's fine.

25 MR. APODACA: Okay, please proceed.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

EDWIN E. MARTIN,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. DOMENICI:

Q. State your name for the record, please, sir.

A. Ed Martin.

Q. What's your position?

A. I'm with the Environmental Bureau of the Oil Conservation Division.

Q. What's your involvement with the Gandy Marley landfarm?

A. I would be -- I'm the permit writer for that particular -- or the permit reviewer for that particular permit, and inspector and oversee the -- that the conditions of the permit are met.

Q. And does your -- does that role include reviewing the Application that is pending today?

A. Yes.

Q. Have you had a chance to review the Application and hear the testimony today?

A. Yes.

Q. Do you have a position or an opinion as to -- from the Division's perspective, as to whether the modification proposed by Gandy Marley should be allowed?

1 A. I have an open mind on certain conditions that
2 could be written into the permit still, if I were approving
3 the permit or writing the permit. But generally speaking,
4 I think it's approvable -- or actionable as it is.

5 Q. What conditions are you still considering, at
6 this point?

7 A. Well, after the testimony today -- and again, I
8 haven't heard CRI's witnesses yet, but some things have
9 come up that have given me some ideas -- would have given
10 me some ideas as to conditions.

11 Vadose-zone monitoring would be one.

12 Mr. -- Dr. Neeper is going to testify, I think,
13 about a cap which he would propose, and I wouldn't be
14 averse to including something like that in there.

15 Plus all the normal conditions I would put on
16 waste management facilities.

17 Q. Are you satisfied from what you've heard so far
18 that the closure plan and the financial assurance related
19 to that are sufficient?

20 A. I think so. The way it's described, all the
21 closure of the landfill cells would be done during the
22 operations, not after the closure of the facility. Closure
23 would be an ongoing concern while the closure of each
24 individual landfill cell was being accomplished. And I
25 think as long as OCD was able to monitor that, that would

1 be sufficient.

2 Q. Let me rephrase that. Subject to possibly
3 considering more evidence on the cap part of closure, are
4 you satisfied with the testimony as to how the closure plan
5 is expected?

6 A. Again, as long as the cap could be -- they could
7 determine that the cap could be effectively installed
8 during the operation and closed in stages, like they are
9 proposing.

10 Q. What is your understanding as to what the basic
11 modification that Gandy Marley is attempting to accomplish
12 through this Application is?

13 A. They want to convert one of their already-
14 remediated landfarm cells into a landfill cell by
15 excavation and lining and with the ability to dispose of
16 salt-contaminated waste and other oilfield waste.

17 Q. And did you anticipate that they could do that
18 through a modification?

19 A. Yes.

20 Q. And that was, in fact, the instruction of the
21 Division --

22 A. Yes.

23 Q. -- to you, to modify their landfarm permit for
24 that purpose you described?

25 A. Yes.

1 MR. DOMENICI: That's all I have.

2 MR. FELDEWERT: Our examination of Mr. Martin is
3 going to be longer, so what I would suggest is that we
4 would be willing to have -- allow Mr. Neeper to present his
5 matter, and then we could recall Mr. Martin and continue
6 with the examination, because I -- depending upon how
7 things go, this could take a little while, and I don't want
8 to put that burden on Mr. Neeper.

9 MR. APODACA: What's "a little while"?

10 MR. FELDEWERT: An hour, half hour.

11 DR. NEEPER: That's acceptable to me. It makes
12 -- I appreciate the courtesy, but also I can --

13 EXAMINER JONES: Why don't you go ahead and ask
14 -- go ahead with Mr. Martin, and --

15 MR. FELDEWERT: Okay.

16 EXAMINER JONES: -- we'll get Dr. Neeper later.

17 CROSS-EXAMINATION

18 BY MR. FELDEWERT:

19 Q. Now, you mentioned that you thought the enclosure
20 plan was sufficient if OCD could monitor, correct?

21 A. Yes.

22 Q. How do you -- does Mr. Marley's -- does Gandy
23 Marley's application indicate how the OCD is going to be
24 able to monitor their closing of this facility?

25 A. No.

1 Q. You also said that it might be sufficient if a
2 cap could be installed in stages, as they suggested,
3 correct?

4 A. Yes.

5 Q. All right. Is -- do you -- Is there any
6 provisions in the Application to determine -- or to allow
7 the monitoring of the cap to make sure that it can be
8 installed in stages?

9 A. No.

10 Q. Do you have any idea how that would be
11 implemented?

12 A. Yes, I could write a -- if I were writing the
13 permit, I could write a condition in there that would set
14 up some scheduled monitoring by OCD for such an action.

15 Q. But they haven't provided you any --

16 A. No.

17 Q. -- information on how this monitoring could be
18 done?

19 A. No.

20 Q. So essentially, Mr. Martin, you would need more
21 information about the closure of this facility than what's
22 in the Application presently; is that right?

23 A. I would need -- well, yes, I would need
24 additional information on certain points.

25 Q. Okay. Now, does the Division -- I want to make

1 sure that we -- this is clear. I understand the Division
2 has -- agrees that salt-contaminated waste should not be
3 landfarmed?

4 A. Correct.

5 Q. And that in essence it ruins the whole
6 remediation process associated with landfarming?

7 A. Right.

8 Q. Okay. And up till now, Mr. -- the Gandy Marley
9 facility has been permitted as a landfarm operation --

10 A. Yes.

11 Q. -- remediation, with the goal of remediating the
12 waste?

13 A. Yes.

14 Q. The Division up till now has not looked at
15 whether this site is suitable to operate as a landfill?

16 A. No.

17 Q. Okay. And I think you characterized that this --
18 you characterized at the March 25th hearing this change in
19 his Application as a major modification, did you not?

20 A. Yes.

21 Q. This is not a minor change, this is a major
22 modification?

23 A. I would consider it a major modification.

24 Q. I think you used terms like -- do you remember
25 using a term like a drastic change from what's going on out

1 there now?

2 A. I would say that -- The context was, landfarms
3 are meant to landfarm remediatable contaminants. If
4 they're applying for modification to accept other than
5 hydrocarbons, then I would consider that a major
6 modification which should go out to public notice and let
7 the public have a hearing, should they so desire.

8 Q. Okay, so we hear a lot of talk about the
9 footprint not changing, maybe a few -- not a lot of changes
10 to their operations. But in connection with the types of
11 waste that they're going to be accepting, the
12 characteristics of those wastes and the method by which it
13 is going to be stored at that facility, that is a major
14 change to what has been going on out there now, is it not?

15 A. I would say so.

16 Q. Now, has -- you mentioned that the Division is no
17 longer -- that it's recognized that salt-contaminated waste
18 cannot be part of the landfarming operation.

19 I understand the Division has sent out letters to
20 halt the acceptance of salt-contaminated waste by
21 landfarms?

22 A. Yes.

23 Q. And that -- has the Division limited the ability
24 of landfarms to accept wastes to only those wastes that are
25 classified as hydrocarbon-contaminated soils?

1 A. Yes.

2 Q. And has the Division undertaken efforts to
3 ascertain whether that mandate has been complied with?

4 A. Probably not actively. We have had reports of
5 landfarms still accepting salts and have followed up on
6 those, but no active enforcement of that has taken place,
7 to my knowledge.

8 Q. When you're notified that a facility is accepting
9 salts, what's the Division doing in response?

10 A. We would -- if it were me, if I got the call, I
11 would call the District Office and have them go out there
12 and check it out, maybe take some samples.

13 Q. Are you requiring these landfarms to remove these
14 salt-contaminated wastes from their facility?

15 A. If we find them, yeah.

16 Q. If you what?

17 A. If we find them.

18 Q. If you find them.

19 What are these landfarms doing with these salt-
20 contaminated wastes?

21 A. Currently?

22 Q. Yes.

23 A. As far as I know -- and this is not a new thing,
24 but as far as I know, they just mix it in with the landfarm
25 cells, in with the hydrocarbons.

1 Q. And those salts are not going away, are they?

2 A. No.

3 Q. Are you familiar with the permitting process for
4 NMED landfills?

5 MR. DOMENICI: Object to this line of
6 questioning, irrelevant.

7 MR. APODACA: What's the basis for your question?

8 Q. (By Mr. Feldewert) Do you have Rule 711 in front
9 of you?

10 A. Yes.

11 Q. Could you turn to Rule 711.B.(1).(m)? M as in
12 Mary.

13 A. Okay.

14 Q. It says that the application shall include "Such
15 other information..." -- I'm reading from (m) -- "Such
16 other information as is necessary to demonstrate that the
17 operation of the facility will not adversely impact public
18 health or the environment and that the facility will be in
19 compliance with OCD rules and orders." Right?

20 A. I see it.

21 Q. Okay. Would you agree with me that NMED landfill
22 requirements might be a good guide as to types of other
23 information that would be helpful in ensuring that these
24 facilities are -- will not adversely impact the public
25 health and the environment?

1 MR. DOMENICI: Same objection. He's asking the
2 witness to speculate if it could be of value.

3 EXAMINER JONES: Why don't you ask the witness
4 if, in fact, they use NMED standards for permitting such
5 operations?

6 THE WITNESS: The answer is no.

7 Q. (By Mr. Feldewert) The answer is what?

8 A. The answer is no, we don't.

9 Q. Okay.

10 MR. APODACA: All right. Then I will sustain Mr.
11 Domenici's objection.

12 Q. (By Mr. Feldewert) Is there a reason why they --
13 the Division does not use the NMED standards for evaluating
14 these applications under paragraph (m) that we just went
15 through?

16 A. NMED -- and I'm not an expert on the NMED rules
17 or regulations, but I believe that they have a very
18 structured way of gathering information and very specific
19 types of -- or items of information that they require.

20 OCD has not felt it necessary at this point in
21 time to be that structured, and it is -- can be handled
22 more site-specifically and -- as in the judgments of the
23 Division, Environmental Bureau and the Division.

24 Q. So the -- are you telling me that the OCD has
25 decided to be less stringent and less -- well, has it

1 decided to be less stringent than the NMED with respect to
2 permitting these types of facilities?

3 A. No.

4 MR. DOMENICI: I'm going to that line -- that
5 question. I'd like to strike the answer. I think that's
6 irrelevant also.

7 MR. FELDEWERT: Have they -- I'm sorry.

8 MR. APODACA: Why don't you rephrase your
9 question?

10 Q. (By Mr. Feldewert) Well, I'm trying to
11 understand here. You said that that is a more rigorous
12 structure, correct?

13 A. It's more -- It's a more structured process.

14 Q. It's a more structured process. Well, do they
15 also take into account different considerations than what
16 you take into account, the Division takes into account?

17 A. I don't think so.

18 MR. DOMENICI: Objection. I want to object to
19 this line of questioning.

20 MR. FELDEWERT: Well, I understand.

21 MR. DOMENICI: Well, I'd like to get a ruling.

22 MR. APODACA: Well, I think the witness testified
23 that OCD uses a more site-specific methodology and NMED
24 uses a more structured-across-the-board methodology.
25 That's my understanding of the testimony.

1 And I think Mr. Domenici's objections relate to
2 you're not giving back the witness what he has told you to
3 confirm. So why don't you stay with what the witness has
4 indicated and move on?

5 Q. (By Mr. Feldewert) Does the NMED look at site-
6 specific information?

7 MR. DOMENICI: Objection, irrelevant and beyond
8 the scope of this witness.

9 MR. APODACA: Sustained.

10 Q. (By Mr. Feldewert) Can you explain to me, then,
11 Mr. Martin, what is implied in paragraph (m) of Rule 711?

12 A. I think that the intent of that is to be kind of
13 a catch-all phrase and let -- that lets the applicant send
14 in as much information as he thinks is required and allows
15 us to request additional information if we feel that's
16 necessary.

17 Q. And are there any guidelines as to what is
18 involved in the such-other-information provision of
19 paragraph (m)?

20 A. No.

21 Q. Would it be reasonable to look at the NMED
22 structure to determine what other information may be
23 necessary to demonstrate that the operation of the facility
24 will not adversely impact public health and the
25 environment?

1 A. It could be used as a resource.

2 Q. That would be a reasonable resource to use,
3 wouldn't it?

4 A. (Nods)

5 Q. And isn't it true that the only difference
6 between NMED landfills and landfills permitted under Rule
7 711 is simply the source of the waste? Is that right?

8 A. Correct.

9 Q. Okay, if it comes from the oilfield it's Rule
10 711, the same type of characteristics of waste; if it comes
11 from any other source, it's under an NMED permit?

12 A. That's essentially true.

13 Q. In Gandy Marley's Application did they indicate
14 that they were going to comply with WQCC regulations?

15 A. I don't believe so.

16 Q. Would you agree that the Division -- Well, let me
17 ask you something.

18 The characteristics of the wastes that the Gandy
19 Marley facility is asking permission to accept, just the
20 characteristics, are they similar to the types of waste
21 that would be accepted at a hazardous waste facility?

22 A. Some are.

23 Q. Some are. So some of these would be hazardous
24 waste, except for the fact that they come from the
25 oilfield?

1 A. Probably, possibly.

2 Q. Okay. So would you agree with me that the
3 Division should be very careful about where these types of
4 facilities are situated?

5 A. Yes, I would.

6 Q. And as part of that process, is it the Applicant
7 that is required to bring forth evidence that meets the
8 requirements of Rule 711, including paragraph (m) that we
9 just went through?

10 A. Yes.

11 Q. Does it make sense to you that the Division
12 should ensure that an application like this is
13 administratively complete before moving to the stage of
14 public notice?

15 A. It makes sense, even though it's not covered
16 specifically in the rule.

17 Q. And that's because the NMED rules don't quite
18 follow the rigorous structure of the NMED rules [*sic*]?

19 A. I'm sorry, say it again.

20 Q. That's because the OCD rules don't quite follow
21 the rigorous structure of the NMED --

22 MR. DOMENICI: Objection.

23 Q. (By Mr. Feldewert) -- provisions.

24 MR. APODACA: I'll sustain that objection. Why
25 don't you rephrase your question? Put a little less spin

1 on it, Mr. Feldewert.

2 MR. FELDEWERT: Okay, I'll do that.

3 Q. (By Mr. Feldewert) The NMED rules do require
4 that an application be deemed administratively complete
5 before there is public notice?

6 MR. DOMENICI: Objection, irrelevant.

7 MR. APODACA: Sustained.

8 Q. (By Mr. Feldewert) If -- now -- Let me get back,
9 then. Is it -- is it -- you said it makes sense than an
10 application be administratively complete before public
11 notice is provided?

12 A. Yes.

13 Q. And is that to ensure that we have meaningful
14 public review of the information that they're relying upon
15 before we get to the point of a hearing?

16 A. That would be the purpose.

17 Q. I mean, would you agree with me that we can't
18 have public comment of data and other information that the
19 Applicant is going to rely upon unless they provide the
20 public with that data before we get to a hearing?

21 A. Makes sense.

22 Q. And I think -- didn't you testify at the March
23 25th hearing that because of the increased danger that is
24 posed by these types of waste that it's very important to
25 have public review and comment upon the information that an

1 applicant is relying upon for this type of an application

2 A. Yes.

3 Q. If we look at Gandy Marley Exhibit Number 5 --
4 that's his Application --

5 A. Okay.

6 Q. Okay, do you have that?

7 A. Yeah.

8 Q. -- if we go to the last -- I'm sorry, if we go to
9 the fifth page --

10 A. Okay.

11 Q. -- and I'm looking at Roman numeral XIII.

12 A. Oh.

13 Q. I'm sorry, I guess it would be -- if you could
14 start with -- it's right before the design, it says --
15 fifth one back. There you go.

16 A. Okay.

17 Q. It says that, "All WQCC regulatory requirements
18 applicable to this facility and OCD rules applicable to the
19 OCD facility will be fully complied with." Do you see
20 that?

21 A. Yes.

22 Q. Okay. Now, what WQCC regulatory requirements
23 apply to this facility, that they're going to -- that
24 they're going to -- that they represent they're going to
25 comply with?

1 A. The contaminant levels, for one thing. Some of
2 the operational requirements that may be required in WQCC,
3 which we are not obligated to apply to the facility, but we
4 may.

5 Q. And what types of operational requirements?

6 A. Pretty similar to ours. They require fencing,
7 netting of ponds, open-top tanks, no acceptance of waste
8 while an attendant is not on duty. That type of thing.

9 Q. Have they -- Does this Application provide you
10 with all the information you need to determine how they are
11 going to ensure that all WQCC regulatory requirements are
12 complied with?

13 A. No.

14 Q. Is one of the things that the Division looks at
15 for any application -- well, let me ask -- Strike that.

16 When the Division is reviewing this type of
17 application, is it important whether the applicant is
18 current on their reporting requirements under their
19 existing permits with the Division?

20 A. It can be.

21 Q. Is that a factor that the Division takes into
22 account?

23 A. Yes.

24 Q. And is that -- and what's the purpose of ensuring
25 that they're complying with their existing reporting

1 requirements?

2 A. We want to make sure that a particular operator
3 has a good history of compliance before we readily give
4 them a modification or a new permit.

5 Q. And when you're dealing with the landfill
6 operation in which they're going to accept wastes that are
7 very dangerous, is this analysis of their history of
8 reporting to the Division even more important?

9 A. I'm sorry, repeat the question.

10 Q. That's a terrible question.

11 In an application like this where they're going
12 to accept all kinds of oilfield waste, some of which,
13 you've noted, are similar in characteristics to hazardous
14 waste, isn't it even more important to determine whether
15 they have a history of compliance with their reporting
16 requirement?

17 A. That's a fair statement.

18 Q. And isn't it important to know that they're going
19 to be able to operate this facility in a safe and efficient
20 fashion?

21 A. That's a fair statement, yes.

22 Q. And isn't it important to ascertain whether
23 they're going to operate this as their primary business
24 purpose or whether this is just going to be something on
25 the side that they're going to do, you know, for additional

1 income?

2 A. Debatable. I don't know whether that should have
3 any consideration by us or not.

4 Q. Would you agree with me that operating a landfarm
5 is not quite as complicated and as rigorous as operating a
6 landfill?

7 A. Yes.

8 Q. Has the Division examined whether Gandy Marley
9 has complied with its reporting requirements under its
10 existing landfarm permit?

11 A. Not at this time, no.

12 Q. They have not complied?

13 A. No, we have not -- we have not investigated that.

14 Q. I think the Applicant testified that they have
15 not been in compliance with their reporting requirements.

16 A. I heard that testimony.

17 Q. And -- Well, strike that.

18 So you don't know what the Division records
19 indicate at this point in time concerning their quarterly
20 and annual reporting requirements?

21 A. Not at this point.

22 Q. Do you maintain a file for their landfarm permit?

23 A. Yes.

24 Q. Okay. And if they have quarterly and annual
25 filings as they're required to under their permit, would it

1 be within that file that you maintain?

2 A. Yes.

3 Q. Okay. And did my office ask you to provide us
4 with a copy of that file?

5 A. Did you?

6 Q. Did my office ask you --

7 A. Yes.

8 Q. -- to provide us with a copy of that file?

9 A. Yes.

10 Q. And did you provide us with a complete copy of
11 that file?

12 A. I don't think that the contractor copied that --
13 the -- I don't know what they copied, whether they got the
14 copies of those or not.

15 Q. Okay. Well, I'm going to show you what -- It's
16 rather bulky. I'm going to have this -- I'm going to write
17 on here, CRI Exhibit 23.

18 If I may approach.

19 MR. APODACA: Do you have one for Ms. MacQuesten?
20 Did you give her one?

21 MR. FELDEWERT: I'm sorry, yes, I do.

22 MR. APODACA: Otherwise, I can give her mine.

23 MR. FELDEWERT: Yes, I do.

24 Q. (By Mr. Feldewert) Mr. Martin, have you had a
25 chance to flip through this rather bulky exhibit?

1 A. Briefly.

2 Q. Okay. Now, the first -- I'm going to have you
3 flip to the end, that might be the easiest way to do it.
4 And if you go about 10 pages up from the end, there should
5 be a letter dated April 1st, 2002?

6 A. Yes.

7 Q. Okay. And that indicates that that is a
8 quarterly analysis of the Gandy Marley facility?

9 A. Right.

10 Q. Okay, and that was in April of 2002. And then
11 the remainder of this exhibit seemed -- if I'm reading it
12 correctly, is essentially a report that was submitted in
13 January of 2005?

14 A. That appears to be correct.

15 Q. Now, I'm going to represent to you that that was
16 all that we received in the file that you provided to us.
17 That would indicate, would it not, then, that you -- the
18 Division has one quarterly report from 2002 and one report
19 from January of 2005, and that that is essentially all the
20 reports that the Division has received from Gandy Marley
21 under its landfarm?

22 A. I don't know that for sure, but that's all that
23 was copied.

24 Q. Okay. Now, if you go to the permit, which is
25 under Tab 5 of our green notebook, it's underneath -- there

1 underneath that map -- and I want to make sure I understand
2 what your reporting requirements are under these permits.

3 Now, Tab 5 is a permit that was issued in 1999?

4 A. Yes.

5 Q. Okay. And it contains reporting requirements on
6 page 4 of this -- pages 4 and 5 of this permit, I believe.

7 A. Yes.

8 Q. Are you familiar with those?

9 A. Yes.

10 Q. Now, the permit that they received in 1994, would
11 it have had the same reporting requirements as the one that
12 was issued in 1999?

13 A. Probably.

14 Q. Okay.

15 A. I don't know that for sure, but I would guess
16 that.

17 Q. Are these standard reporting requirements for
18 landfarms?

19 A. They are now, but I don't know how long they've
20 been standard.

21 Q. Well, let's just deal with what was supposed to
22 be done since 1999. It indicates in paragraph 1 that
23 there's a treatment zone that is comprised of three feet
24 below the landfarm, right?

25 A. Yes.

1 Q. And that there's supposed to be a random soil
2 sample taken quarterly.

3 A. Yes.

4 Q. And then -- and that's -- so that's one sampling
5 that's required to be done, correct?

6 A. Right.

7 Q. All right, the second sampling is in paragraph 2,
8 if I'm understanding this right?

9 A. Yes.

10 Q. And that is that the -- well, let me -- That
11 indicates that the soil samples that are to be taken are to
12 be analyzed quarterly and then annually.

13 A. Quarterly for TPH and BTEX and annually for major
14 cations and anions, yes.

15 Q. Okay. You're familiar with these much more than
16 I. Basically, what is the reporting requirements under
17 this permit?

18 A. We have to get -- we should be receiving four
19 reports per year. They can -- they have to sample for TPH
20 and BTEX three quarters, and the last one of the year they
21 have to sample for TPH, BTEX and major cations and anions,
22 which would be chlorides, basically, is what we're
23 interested in.

24 Q. And what are they sampling?

25 A. They're sampling the soil in the landfarm cells.

1 Q. And that's the soil that they are lifting and
2 disking?

3 A. Right.

4 Q. Okay. And then if I go to the next page, under
5 paragraph 3, this analysis of the treatment zone, those
6 reports are to be submitted to the Santa Fe office,
7 correct?

8 A. Correct.

9 Q. So they have quarterly reporting and an annual
10 report for this treatment zone?

11 A. Yes.

12 Q. All right. Then in paragraph 4 it talks about
13 something else, right?

14 A. Yes.

15 Q. And what does paragraph 4 deal with on page 5?

16 A. Well, the analytical results, I believe, are the
17 same analytical results we're talking about. If they want
18 to close a cell because it's reached the remediation
19 guidelines or standards for OCD, then we have to formally
20 request that they close that cell, stop disking it, in
21 other words.

22 Q. Uh-huh. And before they close that cell, they
23 have to -- if I'm reading this correct, you have to provide
24 analytical results of your remediated soil, provide it to
25 the Division, before you actually close that cell?

1 A. Correct.

2 Q. And that's because you -- and I'm looking on page
3 2 now, paragraph 13 of this permit.

4 A. Okay.

5 Q. And is -- analysis of remediated soils is
6 necessary because your permit does not allow them to
7 essentially stack soils on top of one layer of remediated
8 -- of landfarm soil without first ensuring that that soil
9 that's being stacked upon has actually been remediated; is
10 that right?

11 A. Correct.

12 Q. Okay. Do you know whether the Gandy Marley
13 facility has been operating long enough to where they are
14 actually in the process of stacking soils now?

15 A. I don't know, but I would assume so.

16 Q. You'd assume so? Have you ever received a report
17 from them, that you're aware of, in which they tested that
18 remediated soil and sent it to the Division before doing
19 this stacking?

20 A. I believe there are some requests in there for
21 that -- for closing cells, yes.

22 Q. Okay. I didn't see any in the file.

23 A. Okay. I know that they have closed some cells,
24 and it seems like I have seen some, but I haven't reviewed
25 that file for this purpose.

1 Q. I'm trying to cut this down a little bit, Mr.
2 Martin.

3 A. I'm all for that.

4 MR. APODACA: We are too.

5 Q. (By Mr. Feldewert) Let me ask you something. As
6 I went through your testimony on March 25th, you made some
7 statements about the approval -- what you thought at that
8 time about the approvability of this site and what existed
9 in Division records. And what caught my eye was that you
10 seemed to indicate that the Division records confirmed what
11 was set forth in Gandy Marley's application for emergency
12 order.

13 A. The Division records and the opinions of the
14 staff, yes.

15 Q. Okay. And I'm trying to understand here, they
16 represented that the water quality below the facility at
17 that time was 15,000 parts per million, and I wanted to
18 clarify that the Division does not have any records that
19 confirm that statement at this point in time, do you?

20 A. No.

21 Q. Okay. And you also testified that you thought --
22 well, that you -- you talked a little bit about the nature
23 of the soils in the area, okay?

24 And I want to know, does the Division have any
25 records in which it can ascertain that there is an

1 impermeable red clay barrier between the surface of Gandy
2 Marley's landfarming operations and this groundwater that
3 we know now exists beneath their facility?

4 A. No.

5 Q. The Application in this case, Mr. Martin, as you
6 understand it, then, is for approval to accept all types of
7 oilfield waste, correct?

8 A. Yes.

9 Q. Okay. And to dispose of those types of oilfield
10 waste in some kind of a landfill cell?

11 A. Yes.

12 Q. All right. And therefore the authority that they
13 would receive from this Division if this Application were
14 granted would be similar to what facilities like Lea Lands
15 and CRI and other permitted facilities would be entitled to
16 receive at this point in time?

17 A. That's correct.

18 Q. Okay. And Mr. Martin, is it your testimony,
19 then, that the Division would be able to make that kind of
20 a determination based on what Gandy Marley filed on April
21 8th of 2005, which is comprised of CRI -- which is
22 identified as GMI Exhibit 5?

23 A. Would we have been able to make an adequate
24 determination based on materials submitted in that
25 application?

1 Q. Yes.

2 A. Probably not.

3 Q. And this is the application that was notified --
4 or -- and this is the application for which public notice
5 was given?

6 A. Correct.

7 Q. Okay. Is it your opinion, Mr. Martin, that this
8 application here -- that that is an administratively
9 complete application and that everything that is required
10 to make this determination is in this application?

11 A. Yes.

12 MR. DOMENICI: I'll object to that. There's no
13 definition of "administratively complete".

14 Q. (By Mr. Feldewert) Is that true, Mr. Martin, you
15 don't have a definition of an administratively complete
16 application?

17 A. Not in Rule 711.

18 Q. What do you use?

19 A. Generally, I use the general items that are
20 specified in Rule 711 to determine whether it's
21 administratively complete. If they have the pieces that
22 are required by the Rule, then I consider it
23 administratively complete, quote, unquote.

24 Q. And you think that the designs that were -- the
25 design that was provided with this Application is

1 sufficient for the construction of a solid -- of a landfill
2 disposal cell at this facility?

3 A. At this time?

4 Q. Yes.

5 A. Now, probably not. I would make some conditions,
6 put some conditions on the permit to possibly change that
7 design, based on evidence that I've heard at this hearing.
8 At the time I got it, I thought it was.

9 MR. FELDEWERT: That's all the questions.

10 EXAMINER JONES: Dr. Neeper, do you have a
11 question for Mr. Martin?

12 DR. NEEPER: I have one question.

13 EXAMINATION

14 BY DR. NEEPER:

15 Q. We've heard previous questions regarding the
16 issue of quarterly reports and annual reports in your
17 record.

18 If reports were submitted, does the OCD have any
19 policy or routine of discarding these, or is there any way
20 in which they would have been lost had they been submitted?

21 A. We don't discard them. I doubt that they were
22 lost, but I can't say for sure. But we don't throw them
23 away.

24 DR. NEEPER: Thank you.

25 (Off the record)

1 EXAMINER JONES: Okay, Ms. MacQuesten?

2 EXAMINATION

3 BY MS. MacQUESTEN:

4 Q. Mr. Martin, when Mr. Domenici started asking you
5 questions today I believe you testified that you were
6 giving your opinion as to whether this Application could be
7 accepted based on the information that you have available
8 to you right now; is that right?

9 A. Correct.

10 Q. And the purpose of this hearing is to hear both
11 from the Applicant and anyone who opposes this Application;
12 is that right?

13 A. That's my view, yes.

14 Q. And we haven't yet heard from the opponents, yet.

15 A. Right.

16 Q. So are you saying that you may revise your
17 opinion after hearing the rest of the testimony in this
18 case?

19 A. It's possible.

20 Q. You're leaving that door open?

21 A. I'm open-minded.

22 Q. Now you testified as to the closure information
23 that you felt that the information provided by Gandy Marley
24 on closure would be acceptable if there were additional
25 monitoring by the OCD?

1 A. The closure of the cell -- the description of the
2 closure of the cells at the time before the hearing took
3 place I thought was adequate and would not require -- I
4 didn't think it would require an additional -- an increase
5 of bond amount. Is that what you're asking?

6 Q. I'm asking about the -- I may have misunderstood
7 your testimony, but I thought you said that you would want
8 the OCD to monitor the closure of the landfills because it
9 was an ongoing closure plan while the landfills --

10 A. Yes --

11 Q. -- were still operating.

12 A. -- yes, I did. Yes, I did. And I said I thought
13 if we could do that, that an additional bond would not be
14 required because it would be an ongoing operation.

15 Q. And I believe Mr. Feldewert asked you if you
16 would need additional information in order to come up with
17 conditions that would take care of that -- those concerns.
18 And you said that you did need additional information.

19 What additional information would you need to be
20 able to make a recommendation for conditions on the
21 closure?

22 A. On the closure. The installation of a clay cap
23 is -- again, I'm speaking as if I were going to approve or
24 disapprove this permit. The addition of a clay cap, I'm
25 not firmly convinced that we need. I haven't heard Dr.

1 Neeper talk yet about the clay cap that he has in mind. I
2 did hear the desiccation problem that was alluded to from
3 other testimony, so now I'm reconsidering that.

4 If no clay cap is required, or if it doesn't
5 become a condition, then the monitoring wouldn't have to be
6 so rigorous, I don't think.

7 Q. There were some questions about the compliance of
8 Gandy Marley with the current permit. If compliance is an
9 issue, would you want to include conditions on reporting
10 and monitoring in any permit issued now?

11 A. Yes.

12 Q. What kind of reporting and monitoring conditions
13 would you add?

14 A. I think I'd want to make them a little more
15 strongly worded, to cover any consequences that might arise
16 from nonreporting at this point. But as far as frequency
17 goes, I don't see any reason to change that.

18 Q. So keep the frequency, but increase the
19 consequences of failure to comply?

20 A. Somehow.

21 Q. I believe I also heard you talk about the
22 possibility of adding conditions regarding construction of
23 the landfill cells. What sort of conditions would you want
24 to impose?

25 A. Again, I know from overhearing conversation and

1 being an eavesdropper that Dr. Neeper is going to talk
2 about above-grade enclosures, which is what this is, or
3 what this could turn out to be, and I want to hear that
4 before I make a determination as to whether that's
5 acceptable or not.

6 Q. Would you be prepared after the close of evidence
7 in this hearing to draft conditions that you could
8 recommend to the Hearing Examiner that you would want added
9 to this permit if it were before you for writing?

10 A. Absolutely.

11 Q. We heard a number of questions about whether the
12 Application when received on April 8th was administratively
13 complete. Now that phrase, "administratively complete",
14 doesn't appear in Rule 711, does it?

15 A. No, it doesn't.

16 Q. It does appear in other rules, including OCD's
17 own Rule 19 regarding abatement plans; is that right?

18 A. Yes.

19 Q. And in that context, that rule sets out specific
20 items that need to be in an application for it to be deemed
21 administratively complete, and certain consequences follow
22 from an application being deemed administratively complete?

23 A. That's right.

24 Q. But those don't appear in this rule?

25 A. No.

1 Q. In this rule, though, the OCD does have to make a
2 determination at some point that an application is
3 appropriate to go out for public notice --

4 A. Yes.

5 Q. -- because the OCD is the entity that approves
6 public notice before it is published?

7 A. Right, right.

8 Q. What type of information -- and you are one of
9 the people who evaluates applications for that purpose,
10 right?

11 A. Yes.

12 Q. What sort of information do you look for to
13 determine whether an application is ripe for being put out
14 for public notice?

15 A. Even though the words "administratively complete"
16 don't appear in Rule 711, there are certain minimum
17 requirements that must be met or must be included with the
18 C-137. And if I have all those pieces, whether I need to
19 go back and ask for more information later on or not, I
20 consider it administratively complete.

21 Q. So if they provided information on certain topics
22 that are important to deciding this, it would be
23 appropriate to go out for public notice, even if -- that
24 doesn't mean they have proved to your satisfaction that
25 they have made a sufficient showing to grant the

1 Application on this proposal?

2 A. Right. In this particular instance, the
3 knowledge that the OCD has about this particular area and
4 site, along with the information that they sent in with the
5 C-137, made it complete.

6 Q. Would it be fair to say that the type of
7 information you're looking for in determining whether an
8 application goes out for public notice is the basic sort of
9 information of who, what, when, where and how?

10 A. That's a fair statement.

11 Q. Who's asking for a permit, what type of facility
12 they're asking for a permit for, what basically will be
13 done at that facility, and where that facility is located,
14 and how people can voice their opinion on that permit
15 application?

16 A. Yes.

17 Q. Would you expect the permit application to be
18 complete and in a state that it could be granted at the
19 time the public notice went out?

20 A. Not necessarily.

21 Q. So the process would continue either
22 administratively through requests from the OCD for
23 additional information, or through a formal process such as
24 the hearing we're having today?

25 A. That's usual.

1 Q. When you received the Application on April 8th,
2 did you feel it was appropriate to go out for public notice
3 at that time, based on the information?

4 A. Had it not been all sidetracked -- all but
5 sidetracked to something else, I probably would have
6 recommended to go out for public notice.

7 Q. And in fact, it did go out for public notice --

8 A. Well, it did, and --

9 Q. -- based on that April 8th --

10 A. -- simultaneously with the hearing notice.

11 Q. But your opinion that you gave earlier that this
12 was an Application that you could approve if appropriate
13 conditions were added is based not only on the April 8th
14 Application, but all of the information that you have
15 learned subsequent to that Application, including the
16 testimony today?

17 A. That's correct.

18 MS. MacQUESTEN: Thank you, that's all.

19 EXAMINER JONES: Mr. Domenici?

20 REDIRECT EXAMINATION

21 BY MR. DOMENICI:

22 Q. Now, I think you testified about the WQCC
23 requirements. Are you familiar with the definition of
24 groundwater under the WQCC regulations?

25 A. Definition of groundwater?

1 Q. Yes.

2 A. Yes.

3 Q. Is it the same as the definition of groundwater
4 in the OCD regulations?

5 A. We use that definition.

6 Q. And therefore if the perched water beneath this
7 facility is not groundwater under OCD or WQCC, then the
8 WQCC regulations would not apply to that water, correct?

9 A. That's correct.

10 Q. And as far as the items that Gandy Marley is
11 doing under its landfarm permits -- so the items that are
12 not being requested to be modified --

13 A. -- uh-huh.

14 Q. -- do those items that are not subject to this
15 hearing -- has Gandy Marley met all of the requirements for
16 obtaining a permit for those?

17 A. For the landfarm cells.

18 Q. Landfarm.

19 A. All the requirements for obtaining a permit.

20 Q. Yes.

21 A. Yes.

22 Q. And a permit has been issued once and reissued?

23 A. Yes.

24 Q. And when you were testifying -- I think you were
25 asked, does this Application meet the WQCC requirements?

1 Did you mean -- When you answered that, were you talking
2 about in respect to the modification items or the entire
3 facility?

4 A. The modification items.

5 Q. And does this Application meet the WQC
6 requirements -- -QCC requirements -- for the modification
7 to build the landfill cells, assuming the rest of the
8 permit remains in effect and is -- and does satisfy --

9 A. I haven't really examined it in light of the WQCC
10 rules, because this falls under the 711 rules. And it was
11 reviewed pursuant to that rule, not the WQCC requirements.

12 Q. Now, I know you were asked questions about the
13 comment period, and you -- there were questions about --
14 that the public should be notified about a proceeding so
15 they could comment during the comment period.

16 Do you expect the Applicant to be able to respond
17 to comments that arise during the comment period at the
18 hearing?

19 A. As a witness, you mean? Serving as a witness,
20 or --

21 Q. Serving as a witness or filing documents --

22 A. I suppose I -- I suppose I could. They would --
23 They would do it through us, I think.

24 Q. That's what I'm saying.

25 Would you expect there's a give and take where

1 comments come in and the Applicant is just supposed to
2 review those and actually take those under consideration
3 and decide if they want to make more evidence or present
4 testimony related to those comments?

5 A. And the OCD would review the same ones and
6 require or not require as they saw fit.

7 Q. So it's expected that as a result of comments the
8 Applicant would submit more evidence either to the record
9 before the hearing or at the hearing through testimony?

10 A. That would be the usual course of events.

11 Q. And that's the typical way it's done?

12 A. (Nods)

13 Q. Do you usually tell the applicant prior to a
14 hearing about conditions that you think might be
15 appropriate, provide more communication than you've
16 provided in this case?

17 A. Sometimes.

18 Q. And is the applicant, in your experience -- do
19 the applicants respond to those comments of the OCD?

20 A. For the most part, yeah.

21 Q. They bring on testimony or adjust their proposal,
22 based on OCD input?

23 A. Yes.

24 Q. And that would occur after the public notice,
25 after the application?

1 A. As a rule.

2 Q. Do you know --

3 A. But it depends on the severity of what you're --
4 If we're missing a major piece of information that the
5 application, we don't believe, is complete without it, then
6 it would not go out to public notice. But generally
7 speaking --

8 Q. And after --

9 A. -- what you're describing --

10 Q. -- it's gone to notice --

11 A. -- is true.

12 Q. -- if the OCD has comments or concerns or wants
13 more information --

14 A. Right.

15 Q. -- they would approach the applicant and the
16 applicant would submit those to the record?

17 A. Right.

18 Q. And how long have you been with OCD?

19 A. Twelve years.

20 Q. Are you -- Do you have any knowledge as to
21 whether the CRI application process went as you described?

22 A. I don't, because I was not in the Environmental
23 Bureau at -- for all those 12 years, and I wasn't in there
24 when CRI's application was processed.

25 Q. Now, in the -- in situations where you have a

1 failure of reporting, as has been described here, would
2 your process be that you would meet with the party involved
3 to try to work out some plan to correct that issue?

4 A. Treatment-zone monitoring, that probably would be
5 the first step.

6 Q. And would you look at whether there's been any
7 environmental harm in determining how to proceed?

8 A. If the analyticals came in and it showed that
9 there was, that probably would change the situation some.

10 Q. But in this case have you reviewed the
11 analyticals that demonstrate there has been no harm?

12 A. Yes.

13 Q. That's the January 27th report?

14 A. (Nods)

15 Q. So would retaining a third-party contractor be a
16 type of corrective action that you would envision in a
17 situation where there's been monitoring deficiencies?

18 A. Possible.

19 MR. DOMENICI: That's all I have.

20 MR. FELDEWERT: I have just two short questions,
21 or a couple short questions.

22 RE-CROSS-EXAMINATION

23 BY MR. FELDEWERT:

24 Q. Now, this C-137 that's filed, Mr. Martin, which
25 is GMI Exhibit Number 5 --

1 A. Okay.

2 Q. -- I think -- did you testify that that is the
3 minimum information that the Division needs before it will
4 submit an application for public notice?

5 A. Yes.

6 Q. So you have to meet all the requirements in this
7 from 1 to 15?

8 A. Yes.

9 Q. Can you show me where in this Application they
10 attached a description of the facility with a diagram
11 indicating location of fences, pits, dikes and tanks on the
12 facility?

13 A. No.

14 Q. And can you show me within this Application where
15 they attached proof that the notice requirements of Rule
16 711 had been met as set forth in paragraph 12?

17 A. It's not in this, no.

18 Q. And let me ask you this. Does the OCD at present
19 have the ability and the personnel to go out and monitor
20 the closure of these cells as an ongoing operation out
21 there at the landfarm, as proposed by Gandy Marley?

22 A. It's hard to say. I don't -- I don't know.

23 Q. It would be kind of tough --

24 A. Probably.

25 Q. -- I would suspect, because we're having trouble

1 the hearing process.

2 Q. So this form is fabricated?

3 A. Come up with them on our own, yes.

4 (Laughter)

5 EXAMINER JONES: Sure.

6 MR. APODACA: It's a late hour.

7 Q. (By Examiner Jones) I thought some forms were
8 connected with some rulemaking but some weren't. I didn't
9 know about this one, but --

10 A. To my knowledge, it never went before a hearing
11 -- never went to hearing, the design of the form.

12 Q. The design of the form hasn't?

13 What federal act is -- governs this -- would
14 govern this facility? Would it be the Clean Water Act,
15 would it be the Safe Drinking Water Act or RCRA, or what --

16 A. Since these are all exempt waste, I'm not sure
17 that any of those would -- well, the Clean -- it would come
18 under the auspices of the Clean -- as far as we're
19 concerned, the Clean Water Act and the Drinking Water Act.
20 RCRA would not come into play because these are exempt
21 materials.

22 Q. So you say it's the Clean Water Act?

23 A. We use that. I'm not sure it's even governed --
24 I don't know for sure, but I'm not sure it's governed by
25 the requirements of the Clean Water Act.

1 Q. But what about the Safe Drinking Water Act?

2 A. I don't know.

3 Q. If it is just the Clean Water Act, what in that
4 act defines what is protectible water?

5 A. Nothing in the act, we -- that's a state statute,
6 that's a WQCC standard, I believe, that defines the 10,000
7 TDS or higher -- or below.

8 Q. Okay, and what about NORMs? Are they to be
9 permitted here in this --

10 A. No.

11 Q. And how often do NORMs occur in the oilfield?

12 A. Not real frequently, but sometimes.

13 Q. Do you believe Gandy Marley would be better in
14 their reporting if -- from here forward, or do you have
15 anything to believe they're going to be any better in the
16 future than they were in the past on reporting?

17 A. Time will tell. I mean, I don't know for sure.
18 I don't have anything that tells me that, we haven't
19 discussed it, but -- So they'll have to prove it.

20 Q. Is it -- The new compliance initiative in OCD,
21 the hiring of a compliance officer, is that going to help
22 in reporting -- enforcing reporting facilities?

23 A. Enforcement would go a long way to enforcing
24 things, yes.

25 Q. Okay. How often, when you issue one of these

1 permits, an environmental permit, do you add conditions --
2 preconditions, before the permittee is enabled to bring --
3 in this instance, accept salt-contaminated waste?

4 In other words, how often -- Do you always do
5 that in your permits?

6 A. We have a standard set of conditions that goes in
7 all permits, yeah. Is that what you mean?

8 Q. What I mean is, if a permit is not -- if you
9 think they need to do some more stuff before they actually
10 would meet your requirements of a permit, do you actually
11 issue a permit conditional on some more work being done, or
12 do you make sure you don't issue the permit until
13 everything is done which you need?

14 A. Depends on the circumstances.

15 If we need them to more adequately describe to us
16 how they're going to protect groundwater, if we're
17 concerned about it at that particular site, then we would
18 -- we wouldn't make that a conditional permit; we'd make
19 them resubmit something that shows how they're going to do
20 it, if what we have is not sufficient.

21 Q. And that wouldn't involve more notice to -- more
22 formal notice requirements --

23 A. No.

24 Q. -- like you said before?

25 EXAMINER JONES: Okay, any other questions?

1 MR. DOMENICI: I have one question, if I could.
2 This -- looking at the Application --

3 MR. APODACA: Mr. Domenici --

4 MR. DOMENICI: Yeah -- Oh, I'm sorry.

5 MR. APODACA: I think she actually -- first.

6 MR. DOMENICI: Okay.

7 MS. MacQUESTEN: Could I do some follow-up to
8 some of Mr. Feldewert's questions?

9 EXAMINER JONES: Okay, yeah.

10 FURTHER EXAMINATION

11 BY MS. MacQUESTEN:

12 Q. Mr. Martin, Mr. Feldewert had you look at Form
13 C-137, which is the Application form, and you looked at
14 numbers 1 through 15, the items on that form.

15 A. Right.

16 Q. Do they roughly correspond to items (a) through
17 (m) in Rule 711 --

18 A. I believe --

19 Q. -- B?

20 A. I believe so.

21 Q. And Rule 711.B says that the application shall
22 include these items, but it doesn't say that the
23 application has to have all of these items before it will
24 be deemed appropriate to go out for public notice; is that
25 right?

1 A. Yeah, not Rule 711.

2 Q. And in fact, it couldn't be because one of the
3 requirements is proof of public notice. So it was never
4 intended that this list be completed before public notice
5 was initiated --

6 A. Right.

7 Q. -- is that right?

8 You also commented on the difficulty of doing
9 monitoring, given OCD's personnel situation. Is it true
10 that OCD is asked to do impossible things on almost a daily
11 basis?

12 A. Pretty much.

13 MS. MacQUESTEN: Yeah. Thank you.

14 MR. DOMENICI: I don't have any questions, she
15 asked mine.

16 EXAMINER JONES: Any other questions --

17 MR. FELDEWERT: No.

18 EXAMINER JONES: -- of Mr. Martin?

19 Thank you, Mr. Martin.

20 (Off the record)

21 EXAMINER JONES: Mr. Domenici, your case is not
22 complete yet, is it? You have another witness later on,
23 maybe tomorrow?

24 MR. DOMENICI: It's very, very close to complete.
25 I don't know that I need another witness. I have one

1 exhibit I think I want to put in.

2 (Off the record)

3 EXAMINER JONES: Okay, do you want to enter that
4 exhibit and then --

5 MR. DOMENICI: Yeah.

6 MR. FELDEWERT: Mr. Examiner, while they're
7 searching for that, I indicated I'd like to move the
8 admission of some of our exhibits at the end of the case
9 rather than do it piecemeal, and I -- Well, he's found it,
10 so I'll wait. I'm sorry.

11 MR. DOMENICI: Actually, I think I will recall
12 Bill Marley to -- if that's okay.

13 EXAMINER JONES: Want to do it tonight or --

14 MR. DOMENICI: It should be quick, but --

15 EXAMINER JONES: Okay.

16 MR. DOMENICI: -- I'm willing to do it in the
17 morning.

18 He'll be here, Bill will be here, so if you want
19 to do Mr. Neeper.

20 MR. FELDEWERT: Are you just trying to establish
21 you guys entered into this --

22 MR. DOMENICI: Yeah --

23 MR. FELDEWERT: -- agreement?

24 MR. DOMENICI: -- that's all we're trying to
25 establish.

1 MR. FELDEWERT: That's all you're trying to do?

2 MR. DOMENICI: Yeah.

3 MR. FELDEWERT: I think the agreement speaks for
4 itself. I don't have any objection.

5 MR. APODACA: All right.

6 MR. DOMENICI: I'll mark that and I'll move its
7 admission.

8 EXAMINER JONES: Okay, so you don't need to call
9 him?

10 MR. DOMENICI: No, I won't, I'll just move
11 admission of Exhibit 28.

12 MR. APODACA: -- 27?

13 EXAMINER JONES: We had a 27, right?

14 MR. DOMENICI: 27 was the tendered one that was
15 not admitted.

16 MR. APODACA: Oh, yes, you're absolutely right.

17 MR. FELDEWERT: At this point, then, I've looked
18 through some of the exhibits that we went through this
19 morning, and I would -- if you have my notebook, Pete? --

20 MR. DOMENICI: Yes.

21 MR. FELDEWERT: -- I'm just going to move at this
22 point the admission of Exhibit Number 1, which is the
23 request for temporary --

24 MR. DOMENICI: No objection.

25 MR. FELDEWERT: -- request for an emergency

1 order.

2 MR. DOMENICI: No objection.

3 MR. FELDEWERT: Admission Number 3 [sic], which
4 is the notice of publication --

5 MR. DOMENICI: No objection.

6 MR. FELDEWERT: -- Exhibit Number 3.

7 MR. DOMENICI: No objection.

8 MR. FELDEWERT: Exhibit Number 4, which I think
9 is a duplicate of the application that was filed in 1994.

10 MR. DOMENICI: It doesn't have a cover sheet, but
11 no objection.

12 MR. FELDEWERT: And then the Exhibit Number 5,
13 which is the 1999 permit.

14 MR. DOMENICI: No objection.

15 MR. FELDEWERT: And that's it at this point.

16 MR. APODACA: You skipped over Exhibit 2; is that
17 correct?

18 MR. FELDEWERT: I did skip it, you know, because
19 it's just -- I just had it in the notebook. It's an order
20 of the Division. I don't think we need to have that as an
21 exhibit.

22 MR. APODACA: That's fine.

23 EXAMINER JONES: And this monitoring report was
24 part of the Division's file, right?

25 MR. FELDEWERT: Yes, and I guess we should admit

1 that as -- that's -- that would be --

2 MR. APODACA: That was Exhibit 23?

3 MR. FELDEWERT: -- CRI 23, yes.

4 MR. DOMENICI: No objection to that.

5 (Off the record)

6 EXAMINER JONES: Yeah, let's break for -- Well,

7 let's admit CRI Exhibits 1, 3, 4, 5 --

8 MR. APODACA: -- and 23.

9 EXAMINER JONES: -- and 23, and Gandy Marley

10 Exhibit Twenty- --

11 MR. APODACA: -- eight.

12 EXAMINER JONES: -- 28.

13 MR. DOMENICI: Could we go through my exhibits
14 before I close my case, just to make sure which ones you
15 show have been admitted?

16 MR. APODACA: Exhibit 1, 2 and 3 are
17 provisionally admitted subject to CRI's pending motion,
18 Exhibit 4, Exhibit 5, Exhibit 6, Exhibit 7, Exhibits 8 and
19 9 subject to that same motion and provisional acceptance,
20 Exhibit 10, 11, 12, 13, 14, 15, 16 -- 17 was not admitted;
21 that was the EPA document -- or was the EPA document --

22 MR. DOMENICI: Okay.

23 MR. APODACA: -- let's see, Exhibit 20, Exhibit
24 21, Exhibit 22, 23, 24, 25, Exhibit 26 again subject to the
25 standing motion and provisional acceptance, 27 was tendered

1 but as an offer of proof, and Exhibit 28.

2 So -- I don't show Exhibit 18 and 19 being moved
3 into evidence, but --

4 MR. DOMENICI: Okay, I'll move Exhibit 18, which
5 is the letter of March 10, 2005.

6 EXAMINER JONES: That was admitted.

7 MR. APODACA: It was?

8 MR. FELDEWERT: I'm sorry, I've got to catch up
9 with you. Which exhibits are we dealing with?

10 MR. APODACA: Exhibits 18 and 19, but the Hearing
11 Examiner --

12 EXAMINER JONES: They were admitted.

13 MR. APODACA: Yes.

14 MR. DOMENICI: Okay.

15 MR. APODACA: He's more on top of it at this late
16 hour than I am.

17 EXAMINER JONES: Mr. Domenici, are you going to
18 make sure that the court reporter gets a copy?

19 MR. DOMENICI: Yes, we'll get that...

20 We have nothing further for the case-in-chief.

21 EXAMINER JONES: Okay, thank you very much.

22 Okay, Dr. Neeper?

23 DR. NEEPER: I have things to show with the
24 overhead projector, which will at least enliven the
25 proceedings, if nothing else.

1 EXAMINER JONES: PowerPoint, do you have an
2 electronic --

3 DR. NEEPER: It's not a PowerPoint, it's
4 overhead, which is coming forward. The only question is
5 how you prefer that I set that up.

6 EXAMINER JONES: We're moving toward the 1980s at
7 least, exhibits.

8 (Laughter)

9 DR. NEEPER: That's almost when I was in school,
10 so that's how I do it now.

11 (Off the record)

12 MR. APODACA: Why don't we take a break for about
13 five minutes while you set up?

14 DR. NEEPER: Okay.

15 (Thereupon, a recess was taken at 6:43 p.m.)

16 (The following proceedings had at 6:53 p.m.)

17 EXAMINER JONES: Okay, let's go back on the
18 record.

19 And Dr. Neeper?

20 DR. NEEPER: I have given to each counsel and to
21 the Examiner a single copy of what would be written
22 testimony. I offer that as an exhibit because it contains
23 images that will also be shown on the screen.

24 That would be the only exhibit I would have to
25 offer.

1 (Thereupon, the witness was sworn.)

2 DONALD A. NEEPER,

3 the witness herein, after having been first duly sworn upon
4 his oath, testified as follows:

5 DIRECT TESTIMONY

6 BY DR. NEEPER: I will rephrase that question, that I --
7 point that I offer the written testimony as an exhibit to
8 be included in the record, unless there's objection from
9 counsel.

10 MR. DOMENICI: I haven't looked at it yet.

11 MR. FELDEWERT: No objection.

12 THE WITNESS: I've put on the screen an outline,
13 the same thing that's on the front page.

14 Why would I put up a roadmap of where we're
15 going? It's because today there was a lot of concern with
16 qualifications of witnesses. Were they qualified?

17 I acknowledge I'm doing this, appearing *pro se*,
18 and therefore I will qualify myself. That's a bit of an
19 unusual procedure. I want you to know that that's what's
20 occurring.

21 I want to give you a background of who we are,
22 the organization for which I am speaking, because you may
23 want to know why does this group appear here?

24 We are not suddenly appearing just because Gandy
25 Marley has made an Application. We have a long interest in

1 these matters, particularly a long interest in salt.

2 I want to discuss salt transport in the vadose
3 zone, the effects of salt and how that relates to landfill,
4 and finally our conclusions on the landfill.

5 First, my qualifications for the record.

6 I have a doctorate in thermal physics from the
7 University of Wisconsin, issued in 1964. From 1968 to 1993
8 I was employed at Los Alamos National Laboratory in various
9 details, often working on thermal physics or thermal
10 engineering on a variety of projects.

11 During the last three years that I was employed
12 at the Los Alamos National Laboratory, I spent a lot of my
13 time examining some issues in vadose zone transport, and
14 eventually I was the person in charge of the RCRA facility
15 investigation for a set of legacy landfills at Los Alamos.
16 Included among those are some which you frequently hear
17 about in the newspaper, namely Area G and Area L. That was
18 one my responsibility to conduct the investigation of Area
19 G. We also had organic vapors and tritium as our concerns,
20 but hazardous wastes were also present.

21 Since I retired voluntarily in 1993, I continued
22 working part-time with an environmental consulting firm, in
23 fact two different firms. Eventually I took my final
24 retirement from one of those firms about a few months or a
25 year ago, and I still continue working on my own,

1 conducting my own research. I am a guest scientist at Los
2 Alamos Laboratory now. That means I work unpaid. I get to
3 use their computers and their computer programs, and they
4 get the benefits of my accidently debugging their programs
5 for them.

6 I have served for three years on the national
7 board of STRONGER, Incorporated, which is a national
8 nonprofit funded by the federal government and by the
9 American Petroleum Institute, to examine the adequacy of
10 the regulations of the various states under the RCRA
11 exemption. That gave me some experience with oil and gas
12 issues. But in addition, I had testified earlier on Rule
13 116 and Rule 19 hearings, I think, and a Rule 15 hearing I
14 recently testified on. So I've participated in oil and gas
15 affairs in New Mexico before.

16 Background of the organization for which I am
17 speaking tonight. The organization was founded in the late
18 1960s in response to the pollution from coal-fired power
19 plants. Since that time it then worked on atmospheric
20 pollution from copper smelters. Generally, the history of
21 the organization was to try to cooperate with industry if
22 possible. We never said the industry should not be there,
23 we never said the industry should not be generating power
24 or making copper.

25 MR. APODACA: Dr. Neeper --

1 THE WITNESS: Yes?

2 MR. APODACA: -- I think the Hearing Examiner
3 wants to make a point.

4 EXAMINER JONES: Sorry, Dr. Neeper. So you're
5 qualifying as an expert scientist on landfills for the
6 purpose of this determination?

7 THE WITNESS: For the purpose of this hearing,
8 then, I would like to qualify myself as a technical witness
9 familiar with vadose zone transport. I do not represent
10 myself as a groundwater hydrologist, but I am familiar with
11 groundwater issues.

12 EXAMINER JONES: Okay, are there any objections?

13 MR. FELDEWERT: No.

14 MR. DOMENICI: Can I voir dire?

15 MR. APODACA: Sure.

16 VOIR DIRE EXAMINATION

17 BY MR. DOMENICI:

18 Q. What do you mean by vadose zone transport in
19 terms of your -- what you're trying to qualify yourself as?

20 A. Both contaminants and things you regard as
21 noncontaminants are present in the vadose zone, the region
22 between ground surface and the aquifer. They move. My
23 research concerns how some of them move.

24 My particular work when I was in charge of the
25 RCRA facility investigation at Los Alamos concerned with

1 basically how everything that was there moved or would
2 move. What do we need to sample for? If so, how is it
3 moving? Where do we need to look to find out if it's
4 moving or if it's not moving? For that I had a staff,
5 obviously, of other people as well, to consult with. That
6 wasn't just only my single doing --

7 Q. What -- what --

8 A. -- by any means.

9 Q. Excuse me. What are your qualifications, how you
10 make these assessments?

11 A. How do you make the assessment?

12 Q. Yeah.

13 A. I'm not sure I understand the question.

14 Q. Well, you're saying you're making vadose-zone-
15 transport decisions or analysis? I'm just trying to find
16 out what qualifies you to do that.

17 A. The physics of vadose-zone transport is a lot
18 like the physics of radiation transport, charged-particle
19 transport, nuclear-particle transport. It's very similar.
20 Some of the equations, in fact, are the same.

21 The diffusion equation applies to the movement of
22 air in the vadose zone, it applies to the movement of many
23 contaminants in the vadose zone. So all of your methods
24 for solving the diffusion equation you can pick up from
25 something else you're working on and apply them to the

1 vadose zone.

2 So the physics is very similar. You simply need
3 to get familiar with the terms and understand what are the
4 requirements, what's needed in terms of the problem at
5 hand. Would you need examples of -- of things I have done?

6 MR. DOMENICI: No, no. I don't have any
7 objection.

8 THE WITNESS: I've published several articles in
9 an international learned journal.

10 EXAMINER JONES: Okay, Dr. Neeper is qualified as
11 an expert in vadose zone transport.

12 DIRECT TESTIMONY (Resumed)

13 BY DR. NEEPER: The background of why -- how our group got
14 started, I have told you. Since that time in the early
15 1970s, it has worked on numerous pollution issues
16 throughout the state. Way back in 1971 we became
17 interested locally in salt pollution that was resulting
18 from highway salt. I initiated a local investigation, I
19 also surveyed the national literature on it.

20 One of our members obtained permission to use
21 Laboratory facilities to actually do an investigation of
22 the trees that we claim were being affected in Los Alamos.
23 His result -- his work wound up, actually, as the front
24 page of the Laboratory's public relations magazine that
25 year. I didn't happen to have a copy of that, so I brought

1 just the front page of his technical article as it appeared
2 in a journal. We sometimes do technical things. What he
3 did is measure the sodium accumulation in the pine needles
4 by using neutron-activation analysis.

5 What I'm trying to establish here is that we have
6 a long-term issue -- long-term familiarity with things that
7 relate to salt.

8 This is --

9 MR. APODACA: Dr. Neeper --

10 THE WITNESS: Yes.

11 MR. APODACA: -- excuse me. Could you maybe
12 direct us to the pages in your Exhibit Number 1?

13 THE WITNESS: If you go to the exhibit, after the
14 last text page, which is page 6, following page 6 there
15 will be a set of figures. They will be labeled as Figure
16 1, Figure 2, and so forth, and they will be in the order
17 presented here.

18 MR. APODACA: Thank you, Dr. Neeper.

19 THE WITNESS: This is simply a table illustrating
20 the accumulation of sodium in the pine needles, in this
21 case expressed as sodium chloride in the pine needles,
22 showing that it's thousands, whereas the controls were of
23 the order of hundreds. And the toxic level is somewhere in
24 the area of 600.

25 Why is this important? It relates to the current

1 issue, because we will get back to the effect of salt on
2 vegetation. We have some familiarity with that.

3 Salt moves in the vadose zone with the water. We
4 think of water as being groundwater, but in fact the vadose
5 zone has a lot of water in it, even in dry regions. It's
6 pore water. Not every pore is filled with water, but there
7 is water in the pores.

8 As that water moves, we've heard testimony, with
9 evaporation at the surface the water moves upward. In
10 fact, in these arid climates that accounts for most of the
11 rainfall that lands on the ground. Most of it comes back
12 up to the surface, has been the testimony today.

13 What it moves in relation to is something called
14 the moisture potential. That's just the energy it takes to
15 get ahold of some volume of that water and remove it out of
16 the soil or whatever it is held in like a sponge, and put
17 it in a flat pan. You can add to that gravity. So if it's
18 at a lower depth, that decreases its potential. It's
19 always trying to go to a lower potential.

20 I throw up here some data to illustrate this
21 point. I have a reason for showing these data.

22 In the left graph I show the volumetric moisture
23 in percent of total rock volume. This is for Bandelier
24 tuff, a particular borehole we drilled.

25 I show the suction which is, if you take a rock

1 sample and say how strongly is the water pulled into that
2 rock sample? Just like a sponge, and you can suck water
3 into the sponge. How much is that suction? I plot that.

4 Then in the other graph I plot the total head,
5 which is what you get if you simply add gravity to the
6 suction. Water is trying to go to the point of lowest
7 total head, and I plot a negative number that way. What it
8 means is, water down here is flowing toward that point,
9 even though that's uphill. Water above it is flowing down,
10 and that's downhill.

11 So water doesn't always flow downhill, as we've
12 heard testimony. It sometimes flows uphill. And you can
13 find these gradients moving back and forth up here in the
14 near surface after rainfall and after drying.

15 If you're going to know what's going on, you have
16 to measure the moisture potential.

17 This picture illustrates earlier testimony. This
18 is a case actually taken from just a soil chemistry text.
19 I wanted to bring in something that wasn't mine to
20 illustrate that this is general scientific knowledge. This
21 is an illustration of this author's investigation,
22 something with a very shallow water table, which is almost
23 always pulling water up. And he measured the salinity
24 content, measured in this case with electrical conductivity
25 as you approach the surface, showing that salt, even though

1 it's very dilute salt, was being pulled toward the surface
2 in this case.

3 That's the kind of thing we see in our arid
4 climate, is that salt will move toward places where it is
5 evaporated. I show some pictures. It's just illustrative
6 photographs. You may have seen these kinds of things and
7 not recognized it.

8 In the left one I show just a large boulder
9 sitting in an undisturbed canyon, actually behind my house.
10 You see a white line and a white cap on the rock. That is
11 salts -- in this case not sodium chloride but other salts
12 -- being leached out of the ground, evaporated off the top
13 of the rock. A rainstorm comes and it washes away. And so
14 I sort of go down in this canyon and seasonally I see this
15 thing appear and go away, and it depends on how much
16 rainfall we have.

17 This is a picture of a roadcut. It's a little
18 hard to see in this projection, but you can see white areas
19 in the rock in the roadcut. That again is the same kind of
20 salts appearing on the surface of the rock.

21 And what I wish to point out is, this is not
22 uniform. Moisture transport and air transport in the
23 vadose zone occurs in very particular preferential
24 channels. And you can measure permeability or hydraulic
25 conductivity on an average of some area. But as you get

1 smaller and smaller and your microscope gets finer and
2 finer with which you look at it, the more you find that the
3 flow occurs in preferential channels and according to
4 features.

5 You can see here fractures in the rock. One side
6 of the fracture is delivering salts, the other side is not.
7 I came up close to this and laid my trowel on it and took a
8 picture of it just so you could see the form of the salts
9 on the rock. This is simply illustrating that this kind of
10 transport occurs in the vadose zone and is fairly common,
11 it's not unusual.

12 Why are we -- Why particularly is my organization
13 concerned with this? There was much discussion today about
14 groundwater. If this were a salt pond with a lot of
15 saturated brine, we might be worried about where that's
16 going. In this case, we feel the major focus is elsewhere.
17 We think the focus is on the plants that are going to be
18 needed to re-vegetate the area. That is, we are focusing,
19 if you haven't guessed already, on the upward transport of
20 salt, not the downward transport of salt. Nobody has
21 brought that up yet.

22 What happens when you get salt, sodium chloride
23 particularly, in the soil? It affects the soil. If you
24 get enough of it, it destroys the soil structure and
25 replaces the calcium on the clay particles and other things

1 that soil chemists know more about than I do. The soil
2 becomes you call sodic? And probably most of us have been
3 out on a saltpan and seen this powdery, hard stuff. That's
4 what they mean by sodic soil. The soil loses its porosity,
5 it loses its flocculence, it loses its ability to hold
6 moisture.

7 The effect of this on the plants is manifold. It
8 can reduce the foods, especially the calcium and potassium,
9 available to the plants. Saline soil doesn't transmit
10 moisture to the plants so well. Toxicity to the sodium
11 varies by plant species. That's what we thought we were
12 seeing in the case of the pine trees; they are known to be
13 sensitive to sodium.

14 But also there's toxicity to chloride. You can
15 get tip burn in plants where a black area or a dark area
16 moves from the tip of the leaf back toward the stem of the
17 plant, and often that is caused by chloride.

18 Finally, in response, really, to a question the
19 Examiner asked today, there is an effect of salt in terms
20 of drawing water, so to speak. It decreases the osmotic
21 potential. In other words, it takes that negative point
22 like I had on the graph and moves it even more negative.
23 So additional fresh water would try to dissolve into saline
24 water. You don't see the salt go the other way.

25 The one thing I could pull out of the literature

1 is that germinating plants are the most sensitive. That's
2 the sensitive stage, and that's the thing we're going to be
3 concerned with in the landfill.

4 Why should I talk about landfills? I have had
5 some experience with closed landfills, as I have mentioned.
6 These are legacies. They are left to society to handle.
7 Fortunately, in the particular case, the Department of
8 Energy is there and is the owner and will continue to be
9 the owner of those landfills, but they require continuous
10 action and continuous monitoring. And so it is that
11 experience that brings me to think of these things in
12 landfills.

13 I then said, it's not reasonable to say no-fault.
14 And particularly I was thinking of landfarms at the time,
15 not sure how we were going to handle this landfarm/landfill
16 business. You can't say no salt. You can say how much is
17 too much salt, to be fair. So I went to try to discover,
18 if I could, how much salt is too much. How do we measure
19 it? We've heard various measures today.

20 You can look at pore water leaks from the soil
21 sample, or you can look directly at the soil sample. And
22 the problem with a lot of sampling is, unless you know the
23 sampler or the analytical lab, you don't know exactly what
24 they did. You need to make them specify.

25 But you can measure total dissolved solids.

1 We've heard of that. The problem is, there are other
2 chemicals that may be dissolved.

3 You can measure chloride or sodium
4 concentrations. That doesn't tell you anything about the
5 soil, per se. It just tells you about those
6 concentrations.

7 You can measure electrical conductivity, which is
8 a really handy field measure, as we've heard today, and you
9 can find good correlations with plant damage for various
10 types of plants. But it doesn't tell you, really, what's
11 going on in the soil.

12 So in looking for one measure, I finally settled
13 on the sodium absorption ratio. That does not tell you
14 everything either. It's just if I had to pick one, that's
15 the one I would pick, because it tells you something about
16 the soil, it tells you something about what happens with
17 the plant. It also correlates with the plant damage. I
18 think it would be best to use several measurements, but if
19 I had to use one number and I were regulating, I would
20 focus on the sodium absorption ratio.

21 I've written down what it is. It involves the
22 ratio of sodium to the square root of calcium and magnesium
23 concentrations. And you will find various expressions of
24 this in the literature, sometimes involving a factor of
25 one-half. That's because it depends on whether you are

1 looking at these as molal concentrations or if you're
2 looking at them as chemical equivalents.

3 These are technical terms. I don't think they
4 need to concern us. But we recognize that you have to be
5 careful when you're using them. You can't just pick up one
6 or the other of these two expressions and expect it to
7 work, you have to ask what's going on here. These
8 expressions work for ion concentrations in per-unit mass or
9 volume, and then you have to -- the atomic weight. If
10 there's a lot of calcium carbonate, you should get some
11 corrections to the effect of the Sodium Absorption Ratio.

12 I find it hard to tell in the literature at
13 exactly what point you're picking up damage. From visiting
14 various literature sources I come up with a fair agreement.
15 That is, a number of different sources will agree to this
16 kind of scale, at least that with an SAR less than three,
17 there isn't any problem for most plants. At three to six
18 you don't have many problems except for sodium-sensitive.
19 And above six you start dealing with increasing problems.
20 In fact, above six some authors suggest you start flushing
21 the soil with gypsum.

22 In other climates, such as Oklahoma, it is
23 suggested if you have salt-contaminated soil from a
24 saltwater spill you should flush it and fertilize it.
25 They're assuming you've got lots of water with which to

1 flush it.

2 What are they doing with it? They're not really
3 getting rid of the salt, they're just putting it down into
4 the aquifer. They're a little less sensitive about their
5 groundwater than we are because their aquifer is moving
6 fast and they hope it will get out to the river and go
7 downstream and go to the ocean. But you can't get rid of
8 it. You can treat the soil with things like gypsum to try
9 get your plants to grow better, but it's hard to get rid of
10 the salt in our climate.

11 Once I acquired a focus on the SAR, I went to the
12 OCD files saying, this is going to be the best source of
13 the data, because there's very little data out there
14 strictly on salt-transport, in a meaningful way. So I
15 said, we've probably done some of the best experiments
16 here. We've been running landfarms for 10 or 20 years,
17 we've been sampling them quarterly, we've been sampling the
18 ions annually, which is certainly frequently enough. If I
19 can get that data, I can see -- at least there's a chance I
20 can see what's going on, to figure out how fast does it
21 move and where do we get immediate concern?

22 What I found is not unique to Gandy Marley.
23 Gandy Marley is just catching the flack for it today. I
24 have put an X where I found sampling, reported sampling,
25 and each box represents basically where there should be

1 sampling. That is, each quarter of the year there would
2 normally be sampling according to the conditions in the
3 permit, and once a year you would sample not just
4 hydrocarbons but metals and ions as well. And it's on
5 here, looking at the ions, where I was interested in the
6 data. What I got was two pieces of data that I could use.
7 But I went there because I wanted data.

8 I used the sodium, chlorine and magnesium
9 concentrations measured to deduce SAR values from the most
10 recent sampling, which was to a depth of three feet. OCD
11 allows or encourages monitoring of what they call treatment
12 zone, which is zero to three feet. We see sodium somewhere
13 around 200, 218, in these cells with a very low SAR. No
14 threat to anybody.

15 I picked these two cells because at the earlier
16 time in '02 those two have the higher readings. So okay,
17 look at the ones where you saw a signal before. Fairly
18 similar, 207, 280, earlier. You know, the same order of
19 magnitude readings.

20 Look at the difference in SAR. The factor is 20.
21 What's going on?

22 This one was measured at the surface because
23 although it showed up looking like an annual report, I
24 think it was part of a report saying we're ready to put in
25 a new lift, and we need to give you sampling to prove we're

1 ready for a new lift, the hydrocarbons and so on.

2 This one is three feet down. Mostly for OCD's
3 benefit, I'll say that in my opinion measuring at a depth
4 of three feet is like trying to check whether your barn
5 door is open by looking in the next county for your horse.
6 You need to be looking right up, just below where you're
7 doing the treatment, because if you got three feet of
8 saline soil, you've generated a problem that you can never
9 remediate, not in this climate.

10 So you want to sample up close to treatment zone
11 if you're running a landfarm.

12 Now, how does that relate to the landfill? I've
13 drawn a picture of what I think Gandy Marley's landfill
14 might look like, or part of it might look, based on their
15 own drawing that was in the prehearing statement, and I've
16 colored in a few things.

17 Cells will be somewhat side by side, so I take it
18 the top of the berm, we've heard, will be about 10 feet
19 above ground level. And we've heard that the wastes will
20 be contoured above that, and then that a two-foot earthen
21 cap will be placed on top of that.

22 This brings me to my experience with landfills.
23 Unless the landfill remediates itself, it is a legacy. The
24 issue is not really how good that landfill is during the
25 term of Gandy Marley. The issue is, what will that look

1 like when my great-great-grandchildren are around? Because
2 in my experience, things happen.

3 I have walked other landfills in Los Alamos with
4 some of my colleagues who were in charge of other areas,
5 and in particular we also walked the former municipal
6 landfill there, which accepted municipal waste, as well as
7 the industrial type waste of the Laboratory. We were
8 walking the municipal area because it technically is the
9 responsibility of the Department of Energy, because they
10 owned this when it was used.

11 In one of the industrial fills as we walked
12 along, what I noticed is, they were contoured a little --
13 the water would run in one particular direction gathering,
14 it would run in an area about like this that we contoured
15 down where there's a little depression or ditch to carry
16 some of the main stream off in this direction.

17 What the water did is found a little crack
18 somewhere and washed in. And then more washed in and more
19 washed in, and I looked down at the landfill, and there was
20 a hole I could stick my arm down into, that was serving as
21 a funnel to gather water from an area larger than this
22 room. So the water was going in.

23 I think that can happen elsewhere, that you can
24 get some areas, whether this is soil or anything else, they
25 get worn and they get washed a little bit, you soon wind up

1 with some water preferentially going into your landfill.

2 Where does it go? Does it evaporate right back
3 out the top as we would like? Well, if the wastes down in
4 here are nonuniform, if they are oily, if they are debris
5 and chunks, what you have is a whole variety of pathways
6 through which they can go down. But you may have a lot of
7 oily soil that does not wick very well. So liquid water
8 goes down, but you don't get much wicking going back up.

9 And one of the things I really fear is, you can
10 wind up with a good collection of leachate in the bottom.
11 That's not necessarily bad, but it's something you've got
12 to think about. That's one of the reasons one might have
13 the clay layer underneath it. But you're likely to collect
14 leachate down here, unless you can really guarantee you're
15 keeping the water out of it.

16 How can you keep the water out? Well, you have
17 to be wary that over time you can also get wind erosion,
18 unless you can get good vegetation up there.

19 And now we're back to my story of the connection
20 between all this and salt, is that these are salty wastes,
21 you don't want some rain soaking in and pulling the salt
22 back up, because it might vegetate just fine this year, but
23 five or ten years later, if you keep pulling salt up, the
24 stuff dies, the vegetation dies, the soil starts to blow
25 away, you have only two feet of it, and what you now have

1 is a nice mound of waste on the landscape.

2 I'm particularly worried about that, because the
3 Application is to accept debris. And I asked the question
4 today, what does debris mean? And it does include
5 construction hardware kinds of things.

6 This takes me back to my experience with the
7 domestic landfill at Los Alamos, which was built in
8 Bandelier tuff, cut straight into the tuff. That's fine,
9 nice rock. But on one side like this, it was near the
10 canyon, there was a little bit of a depression. And so
11 that was just dirt. There wasn't a solid rock wall here.
12 In fact, there's quite a long area of this dirt side of the
13 landfill. It's coming out. You can find tires and wheels
14 and broken pieces of pottery and about anything else you
15 want out here now. It's coming out probably for the same
16 reasons that stones appear in a Vermont farmer's field.
17 They get pushed out by the natural forces.

18 So I have some fears that as we put hardware into
19 these things, that hardware is looking for a chance to poke
20 through our cap or poke out of the side.

21 What's why I come down to the point of view I
22 have that these types of landfills at least should not be
23 above ground surface. Our concerns are that the
24 biodegradation of your waste ceases upon burial. As far as
25 I understand, this permit would allow them to take light

1 hydrocarbons and heavy hydrocarbons. The heavies don't
2 degrade very well even in the landfill. Whatever
3 biodegradation is going on, once you bury it will probably
4 cease.

5 The site, then, has to be secure. But the
6 security we're talking about is not 10 years, it's
7 centuries, because this is a sacrifice area, it can never
8 be used again. You might put cattle on it. I don't know
9 that I wouldn't want cattle walking on just a two-foot cap.
10 You certainly couldn't put buildings on it, and you're not
11 going to grow anything there.

12 I'm concerned with migration of salinity through
13 the cap. I focused on the SAR because I'm concerned that
14 it would be very tempting to use remediated soils from the
15 landfarm as some of the covers for the cap. And so, I
16 don't have objection to that, but it shouldn't contain
17 heavy hydrocarbons that won't degrade, and it should have a
18 low SAR if we're going -- whatever you put up there. It
19 should have qualifications on it.

20 I expressed my worries about difficulty with re-
21 vegetation and wind erosion because this site is going to
22 rise, we understand, something like 12 feet above the
23 surrounding plain. This is a mound out there; this is a
24 tell, if it were in the Mideast. It's going to be hit
25 hard.

1 We know that there's a berm on the east side that
2 is now holding off very successfully the wash that comes
3 down from the caprock. But is there an engineer who will
4 certify the integrity of that berm 100 years from now?
5 That's what we're doing, folks, that's what we've got to
6 do, because this is a legacy. So I come up with some
7 proposed permit conditions, and these are really mild,
8 compared to what I would like. I'm saying there shouldn't
9 be any burial of waste at elevations higher than two feet
10 above the level of the ground surface. I would like to
11 have that deeper. I would take it as deep as I can get.

12 How can I come up with distances like two feet?
13 Well, the original cap was scheduled to be two feet, and I
14 was trying as close as I could to the proposer's desires.

15 But one of the things we haven't considered is
16 rodents. When I walk the landfill at Los Alamos, the
17 rodents have been very busy out there in the closed
18 landfills, and you could tell which landfill had been
19 treated with a clay layer, because first there's some dirt
20 and then there's some other colored stuff where the rodent
21 got down to the clay, and he dug it up too. So it made a
22 very colorful mound around the rodent hole.

23 There was one particular site at Los Alamos where
24 it was desired very much to keep the rodents out. They
25 treated that one with a stainless-steel mesh tight enough

1 the rodents couldn't go through it for acres. Rodents are
2 very busy, and we should retain that thought as we permit.
3 We should try to be sure that we're not going to dig the
4 stuff up.

5 Only clean soil should be used. I think a permit
6 should require successful re-vegetation. The current
7 permit requires seeding, but there can be a big difference
8 in these arid climates between successful re-vegetation and
9 seeding, and the only long-term defense I see for the site
10 is vegetation.

11 Finally, bring up this issue of compliance. I
12 say, "The permittee should be in compliance with all
13 regulations and permit requirements, including sampling,
14 for two years." That's not strictly to pick on Gandy
15 Marley. Let me say, probably a lot of other landfarms are
16 out of compliance, at least any other landfarm I looked at
17 was out of compliance.

18 If the Applicant said the required sampling
19 frequency is too high, I might be inclined to agree with
20 him. But I do think if we're going to have regulations and
21 if we're going to have conditions on the permit, we ought
22 to pay attention to them. OCD didn't even know that this
23 was going on, by their testimony. They didn't know whether
24 or not sampling was occurring.

25 So if we're going to require it, we should

1 require things we can pay attention to, and they should be
2 meaningful. But then we also shouldn't turn around and
3 issue more permits to people who don't pay attention to the
4 requirements of their existing permit. It just doesn't
5 make sense. It's that kind of thing that gives OCD the
6 laughingstock reputation among the environmental community,
7 and I don't think we should have. I think we should have
8 an organization that we can be proud of. I think we should
9 be proud that we can live under a RCRA exemption and do
10 well with it, rather than have a RCRA exemption and do
11 poorly with it, which I think was really the origin of a
12 lot of discussion about NMED versus OCD today.

13 That concludes my testimony.

14 EXAMINER JONES: Mr. Domenici?

15 MR. DOMENICI: Can I ask you a few questions?

16 THE WITNESS: You certainly may.

17 MR. DOMENICI: I'll just go straight to your
18 permit conditions --

19 THE WITNESS: Yeah.

20 MR. DOMENICI: -- and I'm trying to tie those to
21 your qualifications.

22 THE WITNESS: Yeah.

23 EXAMINATION

24 BY MR. DOMENICI:

25 Q. Condition number 1, proposed condition number 1,

1 would not appear to me to be related to vadose-zone
2 transport; is that correct? That seemed to be based on
3 anecdotal evidence of visiting a couple of other landfills.

4 A. It's related to vadose-zone transport because the
5 question is where -- What is going to be the interaction
6 between whatever cover or cap you put on there and the
7 underlying wastes? If you're above ground level, you are
8 much more sensitive to whatever is going to happen, and I'm
9 maintaining that it will happen. If you're at the ground
10 level, you're much less sensitive to what's going to
11 happen.

12 Now, there's another aspect of this, whether or
13 not you consider it a qualification. It's my experience.
14 I had to be in charge of the investigation of a few of
15 these landfills and walk the ground with my colleagues and
16 return to other landfills. And I think that experience of
17 seeing a closed landfill 10 or 20 years after it's been
18 closed is some qualification for speaking to that issue.

19 Q. Are you familiar with the surface contour at the
20 Gandy -- or near Gandy Marley?

21 A. I'm familiar with it only by having driven
22 through the area in a vehicle, not through Gandy Marley's
23 precise location, and through looking at the contours on
24 the map. There's a slope, there is the caprock up above
25 it, I remember that escarpment in the caprock.

1 Q. Are there -- Are there a lot of mounds created by
2 blow sand?

3 A. I can't tell you what the native blowing is like
4 out there. Some places there is, some places there isn't,
5 and I haven't seen a difference. I've tried to associate
6 those mounds with vegetation, and there does seem to be a
7 strong correlation. Vegetation seems to hold in particular
8 places and not in others.

9 Q. But as far as the failure mechanisms for the 12-
10 foot-above-ground facility, that -- I understand you said
11 it's safer to be closer to level ground.

12 A. Safer to be below ground for the wastes.

13 Q. But as far as any likelihood of failure of the
14 Gandy Marley design, that's an engineering question outside
15 of your precise expertise, isn't it?

16 A. I don't see that it's beyond my expertise in
17 terms of experience with closed landfills. You can argue
18 with whether or not my experience deals with a landfill
19 above ground. And all I could do is bring you the one
20 slide of one landfill we had which has a downward slope.
21 It's in effect above ground because it has a downward slope
22 that leads off to further, lower territory, and that's
23 where the stuff is coming out.

24 Q. Proposed condition number 2, I didn't hear an
25 explanation as to why you made this proposal.

1 A. I'm glad you asked that question because I
2 overlooked it, and it's an important note I made to myself
3 here today. We ran into this question in a different form.
4 That is, whether these legacy sites should be paved, even
5 temporarily, so that other people could use the site. And
6 it's the same kind of question. If you pave the site, you
7 may find actual moisture accumulating in your landfill,
8 because you can't vent it out the top. So those of us on
9 the team I'm associated with opposed paving the sites and
10 using them for other purposes.

11 On the other hand, in this site we have the
12 question of how can we try and keep the water from getting
13 in there? Because it isn't strictly uniform infiltration
14 and nice suction pulling the water back out. There's
15 preferential paths, and I expressed my fear that once bulk
16 water gets in there, it's going down to the bottom where
17 it's not going to wick back out.

18 So I find there is no perfect answer to this
19 problem, you make a hard choice. And I took what I thought
20 was a minimal choice. You already were installing like
21 one- -- proposing to install a 1-foot clay layer. I said,
22 All right, that's the minimum. I might like to have a lot
23 more. But I'm not far off from about the amount of
24 materials you were using, and I'm trying to get it just a
25 little tighter and a little more secure. Let the rainfall

1 there soak into the first two feet and let it come back out
2 of the first two feet, but try, whatever we can, to keep it
3 from getting in any deeper. It's not a guarantee. I don't
4 think any engineer will guarantee that something like that
5 will hold up forever.

6 Q. Are you aware what the industry standard is?

7 A. I am aware that you have a variety of choices of
8 RCRA landfill -- caps, and you can look at RCRA caps, if
9 you want. Now, the industry standard -- OCD doesn't have a
10 standard, and that's the industry standard here.

11 Q. Number 3, what does TRPHC mean?

12 A. Total recoverable petroleum hydrocarbons.

13 Q. And --

14 A. This goes back to a statement I made of getting
15 down to minimal heavy hydrocarbons, at least for the stuff
16 you're going to use for the cover. It's part of your
17 standard test.

18 Q. Is it your understanding from the sample that you
19 analyzed -- the samples -- sample results, I guess, that
20 the native soil there, which is the three feet below tests
21 -- you summarized the data on this page, Figure 10?

22 A. I summarized particular data from two cells.

23 Q. And the SAR is -- at three feet depth was .2 and
24 .4?

25 A. That's what I calculated from the given ion

1 concentrations --

2 Q. So if --

3 A. -- according to the formula that I also gave you.

4 Q. Okay. Well, if the plan were to use the native
5 soil that's vege- -- that's excavated out of these cells,
6 stockpile it and use it for the cover, would that satisfy
7 you?

8 A. I think the simplest thing to say is, if it
9 doesn't show difficulties with sodium and satisfies me, it
10 doesn't matter where it comes from. And so if you've done
11 a three-foot sampling and you're scooping it out of three
12 feet and you say, Gee, my sample shows this, they are at
13 .2, yeah, yes, you've satisfied it.

14 Q. And --

15 A. But your remediated soils also may qualify at
16 some point.

17 Q. And number 4, successful re-vegetation, what are
18 the specifics of how you're proposing that would actually
19 be attached as a condition? There would be some kind or
20 review of the vegetation?

21 A. Yes.

22 Q. What frequency?

23 A. I'm not writing the regulation, but all I can do
24 is say what I would propose, were I the regulator. Yes? I
25 would propose that something like an applicant says, I have

1 closed this landfill and I have successful vegetation.
2 There's an inspection there, at two years, there's an
3 inspection at five years and an inspection at 10 years.
4 And after 10 years you have a pretty good idea of what's
5 happening.

6 That is based on my experience at looking at re-
7 vegetated landfills that were in the program at Los Alamos.

8 Q. And on number 5, you said that you looked at
9 other landfarm permits, OCD landfarm permits --

10 A. Uh-huh.

11 Q. -- to check on compliance -- or to look for
12 sample data, I guess?

13 A. I started off looking for data.

14 Q. And I think your testimony was that -- I think I
15 wrote it down, let's see. You said they were -- others
16 were out of compliance.

17 A. That's right.

18 Q. How many others?

19 A. I didn't survey them all. Am I required to
20 answer the question?

21 MR. APODACA: Do the best you can.

22 EXAMINER JONES: Yes, you are, best you can.

23 THE WITNESS: A hundred percent of what I looked
24 at.

25 MR. DOMENICI: That's all I have, thank you.

1 EXAMINER JONES: Mr. Feldewert?

2 EXAMINATION

3 BY MR. FELDEWERT:

4 Q. What is a -- Mr. Neeper, what's a RCRA-approved
5 cap design?

6 A. You have to go to the RCRA regulations or -- the
7 most I can say is, there are designs that have RCRA
8 approval, and I would simply have to go get the book? All
9 right? Here's where I am not an engineer, I didn't
10 critique the design, I didn't design any caps, we didn't
11 have to cap any -- We were looking at legacy sites.

12 Q. Uh-huh.

13 A. But I knew there are RCRA caps.

14 Q. And touching and following this legacy issue with
15 the concern you believe the Division should have about
16 ensuring against a legacy that we all don't want to end up
17 with, do you think it's important in these applications
18 that propose landfill cells that they be designed by
19 engineers?

20 A. Design by an engineer is no more an absolute
21 guarantee that you get the right answer than going to a
22 doctor is a guarantee that your surgery will be successful,
23 and I'm crippled for life because one of mine was not.
24 It's a case where you do the best you can, you use the best
25 judgment you can, you get the best experience in that you

1 can.

2 And I believe there's an "or" up here. Okay, it
3 says it would be preferable, but that's an "or". What I'm
4 trying not to do is, one more time to constrain the
5 operator and say, You've got to do this little thing
6 whether or not it fits your site. There's no rule
7 replacement for judgment, doing the best you can.

8 Q. In trying to do the best you can, do you think it
9 would be important to at least try to have -- or have input
10 from engineers to deal with some of the legacy issues up
11 front, rather than years down the road?

12 A. I think you could get civil engineers to design
13 the slope, to design the compaction, to design how you
14 construct a given cap or a given basin.

15 You're asking a thing that is really an opinion,
16 you asked what do I think. I think you would also do well
17 to bring in somebody, preferably more than one person, who
18 has long experience in dealing with closed landfills --

19 Q. Uh-huh.

20 A. -- not how do you build a new one. Let's look at
21 all those that didn't work, for our guidance.

22 MR. FELDEWERT: I don't have any other questions.

23 EXAMINER JONES: Ms. MacQuesten?

24 MS. MacQUESTEN: No questions.

25 THE WITNESS: Thank you for your attention.

EXAMINATION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BY EXAMINER JONES:

Q. Dr. Neeper, can I ask you a couple questions?

A. Yes.

Q. So basically, it sounds like you recommend that the landfill be built least level grade or below, and then -- but if you do that, how do you handle all the water that flows into it?

A. The cap can be higher. What I said was wastes --

Q. Okay.

A. -- below ground level.

Q. Okay.

A. But you can still contour your cap.

Q. Contour the cap and put some gutters or something to collect all the --

A. It has to work naturally, so your vegetation and natural runoff has to work, ultimately, for you. And what you don't want to have happen is to uncover pieces of the waste in that process. You want it simply to stay there and soil to build up rather than to erode away.

Q. This vadose zone you were talking about, that would be, would it not, a vadose zone below the landfill, on down to any perched water that would be there?

A. Technically, the vadose zone is from ground surface down to where you find liquid water. But my accent

1 was, I'm concerned with the transport right up in the very
2 near surface, and in particular I'm concerned with the
3 possibility for upward transport of saline wastes, of the
4 salt.

5 Q. Does that imply you're not concerned with the
6 downward transport?

7 A. I offered very little testimony on the downward
8 transport.

9 Q. You heard a lot all day long?

10 A. Yes. I prefer to let other people cover that in
11 this case. I'm covering enough with this topic.

12 EXAMINER JONES: Okay, that's all I have. Thanks
13 a lot.

14 THE WITNESS: Thank you.

15 EXAMINER JONES: Okay, we'll adjourn until
16 tomorrow morning about 9:15.

17 (Evening recess taken at 7:47 p.m.)

18 * * *

19 I do hereby certify that the foregoing is
20 a complete record of the proceedings in
21 the Examiner hearing of Case No. _____
22 heard by me on _____.

23 _____, Examiner
24 Oil Conservation Division
25

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) SS.
 COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL May 29th, 2005.



STEVEN T. BRENNER
 CCR No. 7

My commission expires: October 16th, 2006

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY)
THE OIL CONSERVATION DIVISION FOR THE)
PURPOSE OF CONSIDERING:)
)
)
)
)
)

APPLICATION OF GANDY MARLEY, INC., TO)
MODIFY THEIR EXISTING NMOCD RULE 711)
PERMIT NO. NM-01-019 SO THAT THEY MAY)
ACCEPT SALT-CONTAMINATED OILFIELD WASTES)
)

CASE NO. 13,480

ORIGINAL
2005 JUN 2 PM 2 47

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: WILLIAM V. JONES, JR., Hearing Examiner

Volume II, May 24th, 2005

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, WILLIAM V. JONES, JR., Hearing Examiner, on Monday and Tuesday, May 23rd and 24th, 2005, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X T O V O L U M E I I

May 24th, 2005 (Volume II)

Examiner Hearing

CASE NO. 13,480

	PAGE
CUMULATIVE INDEX OF EXHIBITS	383
ADDITIONAL SUBMISSIONS, NOT OFFERED OR ADMITTED	385
APPEARANCES	388
CONTROLLED RECOVERY, INC., WITNESSES:	
<u>BILL MARLEY</u> (Part-Owner, Gandy Marley; Landowner)	
Examination by Mr. Feldewert	389
<u>LARRY GANDY</u> (Part-Owner, Gandy Marley; Landowner)	
Examination by Mr. Feldewert	393
Examination by Mr. Domenici	406
Examination by Examiner Jones	410
Further Examination by Mr. Domenici	417
Further Examination by Mr. Feldewert	417
Further Examination by Examiner Jones	420
Further Examination by Mr. Domenici	421
Further Examination by Mr. Feldewert	423
<u>JAMES A. BONNER</u> (Hydrogeologist)	
Direct Examination by Mr. Feldewert	423
Cross-Examination by Mr. Domenici	450
Redirect Examination by Mr. Feldewert	467
Examination by Examiner Jones	470
Examination by Mr. Apodaca	480
Further Examination by Mr. Feldewert	481
<u>MARK TURNBOUGH</u>	
Direct Examination by Mr. Feldewert	485
Voir Dire Examination by Mr. Domenici	495
Direct Examination (Resumed) by Mr. Feldewert	510
Voir Dire Examination by Mr. Apodaca	512
Direct Examination (Resumed) by Mr. Feldewert	514

(Continued...)

CONTROLLED RECOVERY, INC., WITNESSES (Continued):

I. KEITH GORDON (Geotechnical Engineer,
Gordon Environmental, Inc.)

Direct Examination by Mr. Feldewert	523
Voir Dire Examination by Mr. Domenici	536
Direct Examination (Resumed) by Mr. Feldewert	540
Voir Dire Examination by Mr. Domenici	542
Direct Examination (Resumed) by Mr. Feldewert	550
Voir Dire Examination by Mr. Domenici	561
Direct Examination (Resumed) by Mr. Feldewert	565
Cross-Examination by Mr. Domenici	593
Examination by Examiner Jones	627
Redirect Examination by Mr. Feldewert	631
Recross-Examination by Mr. Domenici	633

GANDY MARLEY WITNESSES (Rebuttal):

WILLIAM L. MANSKER (Geologist)

Direct Examination by Mr. Domenici	637
------------------------------------	-----

PATRICK CORSER (Geotechnical Engineer)

Direct Examination by Mr. Domenici	641
Voir Dire Examination by Mr. Feldewert	649
Direct Examination (Resumed) by Mr. Domenici	649
Cross-Examination by Mr. Feldewert	650

EDWIN E. MARTIN (Environmental Engineer,
Environmental Bureau, NMOCD)

Direct Examination by Mr. Domenici	653
Cross-Examination by Mr. Feldewert	655
Examination by Ms. MacQuesten	657
Further Examination by Mr. Feldewert	664
Examination by Examiner Jones	665

RULING ON GANDY MARLEY MOTION	669
-------------------------------	-----

RULING ON CRI MOTION	670
----------------------	-----

CLOSING STATEMENTS:

By Mr. Domenici	673
By Mr. Feldewert	680

REPORTER'S CERTIFICATE	688
------------------------	-----

* * *

C U M U L A T I V E I N D E X O F E X H I B I T S

Gandy Marley	Identified	Admitted
Exhibit 1	36	43
Exhibit 2	37	43
	(provisionally admitted)	
Exhibit 3	37	43, 145
Exhibit 4	43	-
Exhibit 5	46	51
Exhibit 6	51	53
Exhibit 7	54	61
Exhibit 8	56	60
	(provisionally admitted)	
Exhibit 9	57	60
	(provisionally admitted)	
Exhibit 10	62	68
Exhibit 11	62	68
Exhibit 12	63	65
Exhibit 13	63	65
Exhibit 14	65	65
Exhibit 15	66	68
Exhibit 16	68	68
Exhibit 17	103	-
Exhibit 18	128	128
Exhibit 19	128	129
Exhibit 20	157	191
Exhibit 21	189	191
Exhibit 22	211	221
Exhibit 23	218	221
Exhibit 24	223	276
Exhibit 25	223	276
Exhibit 26	275	275
	(provisionally admitted)	

(Continued...)

C U M U L A T I V E I N D E X O F E X H I B I T S
(Continued)

Gandy Marley	Identified	Admitted
Exhibit 27	279	-
Exhibit 28	339	341
Exhibit 29	408	417
Exhibit 30	417	417
Exhibit 31	643	645
Exhibit 32	643	645

* * *

Controlled Recovery	Identified	Admitted
Exhibit 1	79	341
Exhibit 2	-	-
Exhibit 3	85	341
Exhibit 4	82	341
Exhibit 5	311	341
Exhibit 6	424	-
Exhibit 7	83, 427	635
Exhibit 8	446	635
Exhibit 9	-	635
Exhibit 10	534	550
Exhibit 11	526	635
Exhibit 12	535, 541	550
Exhibit 13	-	-
Exhibit 14	-	-
Exhibit 15	551	636
Exhibit 16	560	563
Exhibit 17	486	636
Exhibit 18	-	-
Exhibit 19	631	636
Exhibit 20	-	-
Exhibit 21	399	637

(Continued...)

C U M U L A T I V E I N D E X O F E X H I B I T S
(Continued)

Controlled Recovery	Identified	Admitted
Exhibit 22	-	-
Exhibit 23	309	341, 637

* * *

NMCCAW	Identified	Admitted
"Testimony Regarding Case 13,480, Donald A. Neeper, PhD, on behalf of New Mexico Citizens for Clean Air & Water, Inc."	343	-

* * *

Additional submissions, not offered or admitted:

	Identified
Letter dated April 26th, 2005 from Patrick H. Lyons Commissioner of Public Lands State of New Mexico	12
Letter dated May 4th, 2005 from Leonard Carpenter Operations Manager Harvey E. Yates Company Artesia, NM	12
Letter dated May 17th, 2005 from Randy G. Patterson Executive Vice President of Exploration and Production Yates Petroleum Corporation Artesia, NM	12

(Continued...)

Additional submissions, not offered or admitted:
(Continued)

Letter dated May 18th, 2005 from Jeff Harvard President, Harvard Petroleum Corporation Roswell, NM	12
Letter dated May 3rd, 2005 from Mike Hanagan Manager, Manzano, LLC Roswell, NM	12 Identified
Letter dated May 3rd, 2005 from Rory McMinn Manager, Eagle Resources, LP Roswell, NM	12
Letter dated May 16th, 2005 from Johnny C. Gray President, Marbob Energy Corporation Artesia, NM	12
Letter (undated) from Roy L. McKay President, McKay Capital Corporation Roswell, NM	12
Letter dated May 4th, 2005 from Mark B. Murphy President, Strata Production Company Roswell, NM	12
Letter dated May 2nd, 2005 from Phelps White President, Primero Operating, Inc. Roswell, NM	12
Letter dated May 6th, 2005 from Donald G. Becker, Jr. President, Morexco, Inc. Roswell, NM	12
Letter dated May 6th, 2005 from Joseph J. Kelly President, Elk Oil Company Roswell, NM	12

(Continued...)

Additional submissions, not offered or admitted:
(Continued)

Letter dated May 11th, 2005 from Mike Boling Boling Enterprises, LTD Roswell, NM	13
Letter dated May 4th, 2005 from Cindy J. Graham, Caprock, NM	13
Letter dated May 3rd, 2005 from Jack Luce, Tatum, NM	13
Letter dated May 11th, 2005 from Carl L. Johnson, Tatum, NM	13
Letter dated May 19th, 2005 from Robert G. Armstrong President, Armstrong Energy Corporation	484
Letter dated May 5th, 2005 from Ricky Pearce, Caprock, NM	484

* * *

A P P E A R A N C E S

FOR THE DIVISION:

TED APODACA
Assistant General Counsel
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

GAIL MacQUESTEN
Deputy General Counsel
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

FOR GANDY MARLEY, INC.:

DOMENICI LAW FIRM, P.C.
Attorneys at Law
6100 Seagull St. NE, Suite 205
Albuquerque, New Mexico 87109
By: PETER V. DOMENICI, JR.
and
LORRAINE HOLLINGSWORTH

FOR CONTROLLED RECOVERY, INC.:

HOLLAND & HART, L.L.P., and CAMPBELL & CARR
110 N. Guadalupe, Suite 1
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: MICHAEL H. FELDEWERT

* * *

ALSO PRESENT:

DONALD A. NEEPER
New Mexico Citizens for Clean Air and Water, Inc.
Los Alamos, New Mexico

* * *

1 WHEREUPON, the following proceedings were had at
2 9:22 a.m.:

3 EXAMINER JONES: Let's go back on the record this
4 morning in Case 13,480.

5 And at this time, Mr. Feldewert, call your first
6 witness.

7 MR. FELDEWERT: Thank you, Mr. Examiner. I'd
8 like to call Bill Marley to the stand.

9 EXAMINER JONES: Mr. Marley, you've already been
10 sworn yesterday, haven't you?

11 MR. MARLEY: Yes, sir.

12 BILL MARLEY,
13 the witness herein, having been previously duly sworn upon
14 his oath, was examined and testified as follows:

15 EXAMINATION

16 BY MR. FELDEWERT:

17 Q. Good morning, Mr. Marley.

18 A. Good morning.

19 Q. I've put out in front of you what you marked
20 yesterday as GMI Exhibit Number 28 --

21 A. Yes, sir.

22 Q. -- and I'm going to walk through that with you,
23 if I could.

24 A. Okay.

25 Q. Are you familiar -- Have you reviewed this

1 document?

2 A. No, sir.

3 Q. You have not?

4 A. No, sir.

5 Q. This was your -- Larry Gandy signed this
6 document?

7 A. Yes, sir.

8 Q. Is he here, present in the courtroom today?

9 A. Yes, sir.

10 Q. Okay. And you have not previously reviewed it?

11 A. I've thumbed through it.

12 Q. Are you aware of the requirements and the
13 obligations under this agreement?

14 A. No, sir.

15 Q. Okay. And let's -- Why don't you set that aside,
16 and I'll call Larry Gandy for that then.

17 You mentioned yesterday that you have a permit to
18 accept tankbottoms and other wastes that you put in this
19 concrete bunker that has a liner under it?

20 A. I believe so.

21 Q. Okay. Have you been able to successfully
22 remediate tankbottoms?

23 A. Yes, sir.

24 Q. And what have you done with those tankbottoms --
25 Well, let me ask you this. How do you determine whether

1 they have been successfully remediated?

2 A. When the analytical on that cell comes back as
3 clean.

4 Q. So you've had tests performed?

5 A. As far as I know.

6 Q. Well, have you tested these tankbottoms before
7 you put them into your landfarm, or have you not tested
8 those tankbottoms?

9 A. I'm not sure on that, sir.

10 Q. So is it possible that you put those tankbottoms
11 into your landfarm before they were tested?

12 A. I wouldn't know.

13 Q. Who would know that?

14 A. Probably Larry.

15 Q. Okay. Have you been operating long enough to the
16 point where you actually have another lift on your
17 landfarming operations?

18 A. I believe in one or two cells.

19 Q. Okay. Now, prior to the time that you did this
20 second lift -- This is that second layer we were --

21 A. Yes, sir.

22 Q. -- talking about yesterday, right?

23 Prior to the time -- before implementing that
24 second lift, did you test the soils in the first lift?

25 A. Yes, sir.

1 Q. And do you have those test results available?

2 A. I don't have them with me.

3 Q. Did you file them with the Division?

4 A. Yes, sir.

5 Q. You did?

6 A. I believe we did, and I believe we got a letter
7 back from Martyne Kieling that said it was okay to apply a
8 second lift.

9 Q. And did you do -- how many instances did you
10 apply a second lift?

11 A. I'm not sure.

12 Q. Who would know that?

13 A. Larry might. He'd probably be more familiar with
14 that part of it.

15 MR. FELDEWERT: Okay. That concludes my
16 examination of this witness.

17 THE WITNESS: Don't want to do three and a half
18 hours today?

19 EXAMINER JONES: Mr. Domenici?

20 MR. DOMENICI: No questions.

21 EXAMINER JONES: Ms. MacQuesten?

22 MS. MACQUESTEN: No questions.

23 EXAMINER JONES: We don't have any questions
24 either. Thank you very much --

25 THE WITNESS: Thank you.

1 EXAMINER JONES: -- Mr. Bill Marley.

2 MR. FELDEWERT: We will call Larry Gandy.

3 EXAMINER JONES: Will the witness please stand to
4 be sworn?

5 (Thereupon, the witness was sworn.)

6 LARRY GANDY,

7 the witness herein, after having been first duly sworn upon
8 his oath, was examined and testified as follows:

9 EXAMINATION

10 BY MR. FELDEWERT:

11 Q. Good morning, Mr. Gandy.

12 A. Good morning.

13 Q. Have you been in charge of the reporting and
14 monitoring obligations for your facility since you first
15 received your permit in 1994?

16 A. I am the responsible party, yes.

17 Q. Okay. I want you to take a look at GMI Exhibit
18 Number 28. It should be right there on --

19 A. Oh, yes.

20 Q. Is this an agreement that you executed on behalf
21 of Gandy Marley, Inc., and it's dated December 1st, 2004?

22 A. Yes.

23 Q. Now, I want to walk through this document, if I
24 could. If we flip to the second page -- or let me -- stop.
25 If we stay on the first page, it indicates under this

1 agreement that they -- that the company you entered into
2 this agreement with, CMB -- I'll call them that, okay?

3 A. Okay.

4 Q. -- CMB is to provide environmental consulting
5 services for Gandy Marley?

6 A. Yes.

7 Q. Okay, and that was to commence on December of
8 2004?

9 A. Correct.

10 Q. Is that the first time that you've hired a group
11 to do environmental consulting services for you?

12 A. Yes, it is.

13 Q. If we look at "Part I - Services", it indicates
14 that CMB is to provide the services that are described on
15 the attached proposal?

16 A. Correct.

17 Q. Okay. And then if we flip to the next page, it
18 indicates that they're going to perform the services
19 pursuant to the fee schedules on the attached proposal?

20 A. Yes.

21 Q. Okay. Now, when I flipped through this I didn't
22 see the fee schedule. Do you know where the fee schedule
23 might be?

24 A. No, sir, I don't right now.

25 Q. Okay. And if I look to the last page it says --

1 it says -- at the top it says -- it says "page 15 of"
2 blank. Are there other pages to this agreement that are
3 not included in Gandy Marley Exhibit Number 28?

4 A. Apparently.

5 Q. Did you provide this agreement to your attorney?

6 A. Yes, I did.

7 Q. Did you -- and I assume you got this out of your
8 file.

9 A. Yes, sir.

10 Q. Okay. And do you know why you would not have --
11 well, do you know if the agreement in your file is only
12 comprised of the pages that are included in this
13 attachment, or in this exhibit?

14 A. I couldn't tell you right now.

15 Q. If I go to page 6 of this agreement, "6 of"
16 blank, it shows at the top left corner that it gives them
17 the right of entry upon your facility, correct?

18 A. Correct.

19 Q. And then it describes the project site down in
20 Section 1.5?

21 A. Yes.

22 Q. Correct? All right.

23 If we go to the next page, it talks about sample
24 handling and retention, correct?

25 A. Correct.

1 Q. And in Section 1.6.11 [sic], under "Non-hazardous
2 Samples", it says, "At Client's written request, CMB will
3 maintain..." and -- maintain, preserve "test samples or the
4 residue there from for 30 days after submission of CMB's
5 report, free of storage charge...", right?

6 A. Yes, it does.

7 Q. Okay. Then if we go to the next page, under
8 "Hazardous Substances and Constituents" it indicates that
9 they're going to advise you of any hazardous substances at
10 your facility, right?

11 A. I believe so.

12 Q. If we go to the next page, it describes how
13 that's to occur.

14 If we go to "Page 10 of" blank, which is the next
15 page, it deals with contaminated equipment and unforeseen
16 surface occurrences, and then the remainder of this
17 contract is, for the most part, standard provisions in an
18 agreement.

19 A. I believe so.

20 Q. I'll represent that to you. Okay. What I did
21 not see anywhere in this agreement was an obligation on the
22 part of CMB to do any kind of reporting or filing
23 requirements that are required under your permit with the
24 Division.

25 A. Okay.

1 Q. Is it -- When you entered into this agreement,
2 how long was this agreement to be in effect?

3 A. We did not make that agreement.

4 Q. Was this an agreement only to develop the report
5 that you have submitted as an exhibit that's dated January
6 of 2005?

7 A. No, it was not.

8 Q. Okay, what else was intended under this
9 agreement?

10 A. To continue doing the quarterly sampling.

11 Q. To continue doing your quarterly sampling, okay.

12 Did you -- But did you enter into this report
13 with the understanding that they were going to not only do
14 the quarterly sampling but also meet the filing and
15 monitor- -- the filing requirements with -- under your
16 permits?

17 A. Correct.

18 Q. Even though that's not specified anywhere in this
19 agreement?

20 A. Correct.

21 Q. Do you know whether they have continued to do the
22 quarterly sampling?

23 A. Yes.

24 Q. They have?

25 A. Yes.

1 Q. Did they do a sampling for the first quarter of
2 this year?

3 A. Yes, they have.

4 Q. Okay, and when did that occur?

5 A. It occurred earlier this month.

6 Q. Earlier this month?

7 A. Correct.

8 Q. This is the month of May.

9 A. Yes.

10 Q. Okay, what about the quarterly sampling that was
11 supposed to occur in March?

12 A. We were running behind on it.

13 Q. So they didn't do the quarterly sampling in
14 March? You did not do any --

15 A. Correct.

16 Q. -- quarter sampling in March?

17 A. Correct.

18 Q. Okay. So I take it from that that you have not
19 filed your quarterly report for the first quarter of this
20 year?

21 A. You're correct.

22 Q. And you just -- and you said you just didn't get
23 around to it? Too many things going on?

24 A. Evidently.

25 Q. Okay. Do you see that green notebook in front of

1 you?

2 A. Yes.

3 Q. Would you turn to Tab 21, please? Mr. Gandy,
4 have you seen this letter before?

5 A. Yes, I have.

6 Q. This is a notice of violation from the New Mexico
7 Environment Department, correct?

8 A. Correct.

9 Q. It's directed to you?

10 A. Yes, it is.

11 Q. Because you were the responsible party?

12 A. Correct.

13 Q. Okay. It indicates on here that you were issued
14 a discharge permit by the NMED on August 24th of 2000.

15 A. Uh-huh, yes.

16 Q. Is that right?

17 A. Correct.

18 Q. If I then look at the second paragraph, it
19 indicates, does it not, that since August of 2000 you have
20 failed to meet every single reporting and monitoring
21 obligation under your discharge permit?

22 A. Not every single report, no, sir.

23 Q. Well, let's go through it.

24 MR. DOMENICI: Well, I'm going to object to this.
25 This is a notice. There's an -- by -- on its face there's

1 an opportunity to respond within 30 days. That hasn't
2 occurred yet.

3 MR. APODACA: Mr. Feldewert?

4 MR. DOMENICI: It's not proof of a violation,
5 it's only --

6 MR. FELDEWERT: That's fine, it's a notice of a
7 violation.

8 MR. APODACA: I don't think he's contending, at
9 least not at this point, that this is a violation. He's
10 just representing that they were issued a notice of
11 violation, and I think that's all he is trying to do with
12 his testimony.

13 If he goes further and tries to contend there is
14 a violation, we'll address that --

15 MR. DOMENICI: Okay.

16 MR. APODACA: -- but at this point he can
17 proceed.

18 Q. (By Mr. Feldewert) Now, did you conduct an
19 investigation of your records upon receipt of this notice
20 from the New Mexico Environment Department?

21 A. Yes, I have.

22 Q. You have, okay. It says -- and I'm looking at
23 the second paragraph, it says monitoring reports were due
24 on September 1st, 2000.

25 A. Yes.

1 Q. Okay, did your investigation indicate whether you
2 had some -- you had monitoring reports for September, 2000?

3 A. I'm trying to remember which other monitoring
4 reports that we had in our files that are written in this.
5 I don't remember exactly on the September 1, 2000.

6 Q. Would that hold true for all the other dates on
7 here?

8 A. Correct.

9 Q. So you can't testify here today whether you have
10 submitted or not submitted monitoring reports to the NMED,
11 as required under your discharge permit?

12 A. In my investigation of our files I found that
13 part of the NMED files were incomplete.

14 Q. Whose files were incomplete?

15 A. The Groundwater Bureau's.

16 Q. Okay. Incomplete in what fashion?

17 A. They did not have all of the quarterly reports
18 that we had in our files that had been submitted.

19 Q. It's your testimony that you have submitted
20 quarterly reports to the NMED?

21 A. I have reported several more quarterly reports
22 than what they show in this violation, notice violation.

23 Q. Do you remember how many?

24 A. Three.

25 Q. Three. So it's your testimony that your records

1 indicate that since August of 2000 you have submitted three
2 quarterly reports to the NMED?

3 A. No, sir, I am saying that I have reported three
4 more quarterly reports than what they show.

5 Q. Than what the NMED files show?

6 A. Correct.

7 Q. Well, according to this letter the NMED files
8 show that you have not submitted any.

9 A. I believe that's incorrect.

10 Q. Okay. But you can't -- Can you tell us today how
11 many quarterly reports you've submitted to the Environment
12 Department?

13 A. Not exactly, no, sir.

14 Q. Can you tell us if it's less than five?

15 A. It is more than five.

16 Q. Okay. Is it less than -- All right, so it's your
17 testimony you've submitted over five quarterly reports to
18 the New Mexico Environment Department?

19 A. Correct.

20 Q. Okay, but can you tell us how many?

21 A. No, sir.

22 Q. Okay. Does your investigation reveal that you
23 have failed to meet all of your reporting requirements to
24 the New Mexico Environment Department?

25 A. Could you ask that question one more time?

1 Q. Does your investigation indicate that you -- that
2 you have failed to meet all of your reporting requirements
3 to the New Mexico -- or, I'm sorry, that you have failed to
4 meet -- Strike that.

5 Does your investigation reveal that you have
6 failed to meet all of your reporting requirements to the
7 New Mexico Environment Department?

8 A. My investigation concludes that I have failed to
9 meet some of the requirements.

10 Q. Can you identify today what you have failed to
11 meet?

12 A. No, sir.

13 Q. Okay. Included within this notice of violation
14 is a failure to meet the March 1st, 2005, reporting
15 obligation under your discharge permit to the NMED,
16 correct?

17 A. The March 1st, 2005?

18 Q. Yes.

19 A. Correct.

20 Q. Okay, and you did not meet that obligation?

21 A. No, sir.

22 Q. Now, have you -- With respect to these
23 tankbottoms that are contained within this concrete bunker
24 at your site, have you removed those tankbottoms and spread
25 them on your landfarm?

1 A. Yes.

2 Q. Prior to removing them, did you test those
3 tankbottoms?

4 A. No, sir.

5 Q. Did you test them after you put them into your
6 landfarm?

7 A. After the cells were cleaned, yes.

8 Q. After the cells were cleaned. What do you mean
9 by that?

10 A. After we've remediated our cells, as part of our
11 quarterly sampling, our yearly sampling, we have tested
12 certain cells which we believe were remediated to our
13 standards. And at that point we submitted that to the OCD.

14 Q. When did you submit those tests to the OCD?

15 A. The last one was in January of 2005.

16 Q. Okay, did you submit any test results before
17 that?

18 A. Yes.

19 Q. How many?

20 A. One.

21 Q. One, for 30 cells?

22 A. For the remediation --

23 Q. Yes.

24 A. -- cleanup and remediation of our cells?

25 Q. Yeah.

1 A. Yes.

2 Q. Did you -- Did you obtain authority from the Oil
3 Conservation Division before -- prior to application of the
4 successive lifts?

5 A. Restate that question.

6 Q. Did you obtain authorization from the Oil
7 Conservation Division before putting another lift on the
8 soils?

9 A. Yes, we did.

10 Q. You did. Did you do that in every case before
11 putting another lift on the soils?

12 A. Yes, we have.

13 Q. So if we went to the Division's files, there
14 would be authorization for you to obtain -- to apply a
15 successive lift?

16 A. There should.

17 Q. Have you submitted a response to the New Mexico
18 Environment Department pursuant to this notice of
19 violation?

20 A. Not yet.

21 Q. When did you intend to submit a response?

22 A. Before our 30-day deadline.

23 MR. FELDEWERT: Okay. That's all I have.

24 THE WITNESS: All right.

25 EXAMINER JONES: Questions, Mr. Domenici?

EXAMINATION

1
2 BY MR. DOMENICI:

3 Q. Larry, are you aware that -- have you received
4 results of the sampling -- the most recent sampling that
5 was done?

6 A. Yes.

7 Q. And who did that sampling?

8 A. CMB Environmental.

9 Q. And did you understand your contract with them
10 included provisions that they would sample in accordance
11 with your discharge plan?

12 A. Correct.

13 Q. And so you were asked why the samples were taken
14 when they were?

15 A. Uh-huh.

16 Q. Do you know why CMB didn't take them sooner?

17 A. Well, we have been busy on other projects.

18 Q. Let me show you the documents, and I'm going to
19 mark them in a second, because -- What's the date on that
20 report in front of you?

21 A. May 23rd.

22 Q. And what is the date on the -- And what is this
23 reference as far as the project number?

24 A. Gandy Marley landfarm, quarterly sampling
25 discharge plan 241.

1 Q. And what's the date the samples were taken?

2 A. The 9th day of May and the 10th day of May.

3 Q. Have these been submitted yet to the Environment
4 Department, to your knowledge.

5 A. They have not.

6 Q. What's your understanding that CMB is going to do
7 with these results, as far as submitting them?

8 A. They're going to complete their report and submit
9 them soon.

10 MR. DOMENICI: I'd like to show these to opposing
11 counsel. They're my only set right now, but I'd like to
12 move their admission and make copies for everyone.

13 MR. APODACA: Mr. Domenici, do you have an
14 opportunity to show that also to Ms. MacQuesten?

15 MR. DOMENICI: Yes, I will.

16 MR. FELDEWERT: Mr. Examiner, I'd like to have an
17 opportunity to look at this. Obviously this has come in
18 again at the last minute, we've had no chance to look at it
19 up till now. So before we admit this document or address
20 the admission of this document, I'd like to have a chance
21 to review it.

22 My suggestion is that we proceed, and at the
23 break I will review it.

24 MR. DOMENICI: That's fine with me. And I'll
25 make a copy for counsel and Ms. MacQuesten.

1 MR. APODACA: Please proceed. That would be
2 Exhibit 29?

3 MR. DOMENICI: Yes.

4 MR. APODACA: Thank you.

5 MR. DOMENICI: I'm going to tender those. Those
6 are my only copies right now.

7 Q. (By Mr. Domenici) Let me ask you to turn to GMI
8 Exhibit 23, should be up there -- I'm sorry, it's not --
9 Strike that.

10 MR. APODACA: Counsel, would it help you if we
11 gave you five minutes to get organized?

12 MR. DOMENICI: Yes, I'm looking for the exhibit
13 you introduced yesterday with the OCD file. What number
14 was that?

15 EXAMINER JONES: This big one?

16 MR. FELDEWERT: That was --

17 MR. DOMENICI: Okay, so that's CRI 23.

18 Yes, if we take five minutes, I can be ready.

19 MR. APODACA: Let's do that, take a five-minute
20 break.

21 (Thereupon, a recess was taken at 9:49 a.m.)

22 (The following proceedings had at 10:02 a.m.)

23 EXAMINER JONES: Okay, let's go back on the
24 record.

25 Q. (By Mr. Domenici) Okay, look at that CRI Exhibit

1 21 -- 23, excuse me. Have you had a chance to look at that
2 over the break?

3 A. Yes.

4 Q. And yesterday were you here when there was
5 testimony that that was the OCD file?

6 A. Yes.

7 Q. Is that incomplete, as far as you're concerned?

8 A. Extremely incomplete.

9 Q. And do you specifically recall receiving approval
10 letters from OCD that are not in that file?

11 A. Correct. Most of our approvals are -- I know the
12 last one was e-mail.

13 Q. Who was it from?

14 A. Ed Martin.

15 Q. And how recent was it?

16 A. I believe it was in February.

17 Q. '05?

18 A. Correct.

19 Q. And then you have written letters prior to that?

20 A. Yes.

21 Q. Written approval letters prior to that?

22 A. Correct.

23 MR. DOMENICI: That's all I have.

24 EXAMINER JONES: Ms. MacQuesten?

25 MS. MACQUESTEN: No questions.

EXAMINATION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BY EXAMINER JONES:

Q. Mr. Marley, I have some. This is the first time you've been up.

MR. DOMENICI: This is Mr. Gandy.

EXAMINER JONES: I'm sorry, Larry Gandy. I'm sorry. But Mr. Marley was up earlier and I asked him a bunch of these same questions, so I'd better go over them with you a little bit.

Q. (By Examiner Jones)

The permit Application says contact person is Bill Marley or Larry Gandy. Who's in charge of this facility, specifically?

A. Both of us.

Q. Okay. So you guys kind of -- one of you is there part of the time, one of you is there the other part of the time?

A. Correct.

Q. Well, who's in charge of -- I suppose you have a bookkeeper or somebody taking care of the books for the business, an accountant or something?

A. Mark Marley -- excuse me, Mack Marley.

Q. Oh, I think I saw his name in here -- in here earlier. In this particular Application, you want to -- basically, the way I read it, you want to convert some of

1 the cells, or all of the cells, from a landfarm to a
2 landfill. Is it some of the cells or all of the cells?

3 A. Just some of the cells.

4 Q. Pardon?

5 A. Just part of the cells.

6 Q. Just part of the cells?

7 A. Yes.

8 Q. But when you convert a cell, you convert the
9 whole cell, right?

10 A. Correct.

11 Q. Okay. And how do you -- how do you -- What's the
12 procedure you go by to convert?

13 A. Well, to keep from changing the footprint of the
14 facility, we're only going to use the cells that we have
15 already remediated to the OCD standards, and instead of
16 putting another lift of contaminated dirt on those, we're
17 just going to take those particular cells to build our
18 landfarm cells -- landfill cells.

19 Q. Okay. So do you excavate the cells and then
20 start with the new material?

21 A. Yes.

22 Q. So the excavation of material, what do you do
23 with that?

24 A. That will be in our -- it will be to construct
25 our berms or sidewalls.

1 Q. Okay. So it's already been remediated?

2 A. Correct.

3 Q. And how do you tell it's been totally remediated?

4 A. By the sampling and testing.

5 Q. Okay. So has some -- the -- Mr. Marley said

6 earlier that you have been taking salt-contaminated

7 cuttings for some time. Is that -- Has those cuttings been

8 placed in certain cells, or have they been spread among all

9 the cells?

10 A. If we were receiving anything that we knew was

11 extremely high in salt content, they were putting in a

12 separate cell.

13 Q. Okay. So who told you, or how did you find out

14 about the type of salt content?

15 A. On every cleanup project that we do, especially

16 of -- one of any size, we're on site before any excavation

17 or any removal of any -- and we have a very good idea.

18 Q. Okay. So -- but you take -- you have your own

19 trucks that bring in the --

20 A. Gandy Corporation does.

21 Q. Oh. But you do take other trucks that come in

22 from drilling rigs, right, or from reserve pits from

23 drilling rigs?

24 A. Correct.

25 Q. And you assume a reserve pit in the Permian Basin

1 is almost always salt-contaminated cuttings; is that right?

2 A. Yes.

3 Q. I'm just trying to make sure I understand this
4 procedure, but -- so the salt that you put into the -- with
5 the oil-contaminated waste, and you -- you try to remediate
6 the oil-contaminated waste. How did you remediate the
7 salt? There was no way, was there?

8 A. No, there's no way to remediate salt.

9 Q. Okay. But did that interfere with your
10 remediation of the oil-contaminated waste, the salt?

11 A. We have -- I tried very hard to segregate the two
12 types of material. So we haven't had a whole lot of
13 difficulty in remediating the hydrocarbon-contaminated
14 waste.

15 Q. Okay. So -- but you know -- you know that by
16 testing before and testing after?

17 A. And experience and knowledge.

18 Q. Yeah. This CMB contract -- you contracted with
19 CMB, I think it was, to -- this is GMI Exhibit 28. Now,
20 what are they going to be doing different than what you did
21 before?

22 A. We hope that they are going to do all of our
23 quarterly monitoring where I have been missing out on them.

24 Q. Okay, are they going to take care of actually
25 going out there and collecting the samples, or do you guys

1 collect them and send them off to these people?

2 A. No, CMB will be coming out to --

3 Q. So they send --

4 A. -- collect the samples.

5 Q. -- people out?

6 A. Yes.

7 Q. Maybe a lab truck or --

8 A. Uh-huh.

9 Q. -- or a -- Okay. Was it hard to find somebody
10 like this? Did you have to search --

11 A. We've worked with CMB Environmental quite a bit
12 on other projects.

13 Q. Okay. Do they know -- you're convinced they know
14 what they're doing?

15 A. Yes.

16 Q. Okay. Okay, as far as converting this from a
17 landfarm to a landfill and not changing the footprint, I
18 guess that was a cheaper way to go, right, rather than
19 actually step out and form new cells that -- brand-new
20 cells, that you would start out as landfill?

21 A. Yes.

22 Q. Okay, but that's the main reason for that?

23 A. That, and we have the -- you know, that property
24 is available, you know, that we've already got it
25 permitted, it is already bonded, and to keep from

1 disturbing more ground.

2 Q. Okay. Okay. Mr. Marley has got quite a bit of
3 ground out there, though, I mean --

4 A. Yes.

5 Q. -- but basically it's cost, right? It's just --
6 you're saving money by converting, rather than stepping
7 out?

8 A. That is one reason, but also he needs as much
9 property out there for his livestock as possible.

10 Q. Okay. Okay, and what kind of debris -- Mr. --
11 Dr. Neeper was talking about the debris. Basically, isn't
12 it just drill cuttings? Are you taking filters from, like
13 saltwater disposal wells, things like that?

14 A. Right now, we're not taking any of that.

15 Q. Okay.

16 A. No debris at all.

17 Q. Okay. Sludges, tankbottoms. It says and filters
18 associated with drilling, but right now you're not, so far?

19 A. So far.

20 Q. So the monitoring that's required by the OCD for
21 a landfarm, is it different than monitoring for a landfill?
22 Still a three-month -- every three months?

23 A. That is what we are requesting, yes.

24 Q. But you haven't received a ruling from the
25 Environmental Bureau yet? Have they told you what they're

1 going to require if --

2 A. No, sir, they have not.

3 Q. So you expect that to be part of the permit, if
4 you get a permit?

5 A. Correct.

6 Q. Okay, what about the closure plan? Mr. Marley
7 talked about it a little bit, but can you talk about it
8 more? What do you -- How do you envision that the site
9 will be closed eventually? What will you do it to close
10 it?

11 A. We envision to close the landfill as it is being
12 filled. Probably our engineer would be the best person to
13 talk to on that.

14 Q. Okay, your engineer was hired not just for this
15 hearing, then, but he's on retainer with you?

16 A. We have worked with him for several years

17 Q. Okay, so -- Were you involved in this
18 Application?

19 A. Yes.

20 Q. Okay, so you saw this closure -- this little
21 paragraph on closure plan here?

22 A. Correct.

23 EXAMINER JONES: Well, I think we've already
24 talked about that quite a bit. I just wanted to hear that
25 from you -- Mr. Marley. And I think that's all I have.

1 Any other questions?

2 MR. DOMENICI: I have these two exhibits, if I
3 could tender them, which will be GMI 29 and 30.

4 FURTHER EXAMINATION

5 BY MR. DOMENICI:

6 Q. And Mr. Gandy, let me ask you, what is 29 and 30,
7 and identify what those are for the record, please.

8 A. One is a February 19th of 2001 for approval of
9 additional lifts in cells 2 and 4.

10 The other one is an April 8th, 2002, approval for
11 additional lifts for cell number 1.

12 Q. And just to confirm, neither of those letters are
13 in CRI Exhibit 23?

14 A. I did not find them there.

15 MR. DOMENICI: I'll move admission of 29 and 30.

16 MR. FELDEWERT: No objection.

17 EXAMINER JONES: 29 and 30 will be admitted, GMI
18 29 and 30.

19 MR. DOMENICI: No other questions.

20 MR. FELDEWERT: I have two --

21 EXAMINER JONES: Okay, go ahead.

22 MR. FELDEWERT: -- two subjects.

23 EXAMINATION

24 BY MR. FELDEWERT:

25 Q. Mr. Gandy, you said that your facility has been

1 accepting salts for quite some time, salt-contaminated
2 waste?

3 A. Correct.

4 Q. How long?

5 A. I would say practically since we first become
6 permitted.

7 Q. Since 1994?

8 A. Yes, sir.

9 Q. When did you start taking steps to segregate the
10 salts?

11 A. It's hard to say. It's been a few years ago.

12 Q. Two, three?

13 A. I would say longer than that.

14 Q. Okay. Do you -- is there -- Was there a period
15 of time when the salts were not segregated, then?

16 A. Yes.

17 Q. Okay. And what have you done specifically to try
18 to segregate the salts when you undertook that effort?

19 A. Placed them in separate cells.

20 Q. And can you identify the cells?

21 A. Not exactly right this moment.

22 Q. Okay. And when -- under your closure plan, you
23 referred to your engineer, but your engineer has not
24 developed anything about closure in writing, other than
25 what's in your report?

1 A. Correct.

2 Q. And he didn't -- take that back. He didn't
3 develop what's in your report -- or your Application, did
4 he?

5 A. Correct.

6 Q. Who developed what's in your Application?

7 A. Mr. Marley.

8 Q. Okay. And you intend to use soils from your
9 landfarming operations to gradually close your landfill
10 cells?

11 A. Our intention is to use the overburdens that were
12 removed in the construction of the landfill.

13 Q. Are the landfills going to go -- well, that's
14 where I get lost. Are these landfills going to go in cells
15 that have been used for landfarming?

16 A. Correct.

17 Q. Okay. So the soil that you take out of there is
18 soil that you have landfarmed?

19 A. The top six inches to 12 inches, yes.

20 Q. Okay, and that's what you intend to use to close
21 your cells as you fill them with waste?

22 A. That material will be used to construct our
23 berms.

24 Q. What do you intend to close your cell with?

25 A. With the clean excavated soils.

1 Q. And where are they going to come from?

2 A. From the excavation of the landfill.

3 Q. The same soils that you landfarm?

4 A. No, it would be the soils below the remediated
5 soil.

6 Q. I didn't see that in your closure plans. That
7 wasn't in your description, your closure plan?

8 A. No.

9 MR. FELDEWERT: Okay, that's all I have.

10 FURTHER EXAMINATION

11 BY EXAMINER JONES:

12 Q. Mr. Gandy, I can understand your -- the -- trying
13 to save money, but you're going to be taking out material
14 from the landfarm cells that have taken salt-contaminated
15 wastes and you're going to be building berms to pour them
16 into?

17 A. (No response)

18 Q. Did the -- was that -- Did the Environmental
19 Bureau talk to you about that at all? Did they approve
20 that already, or any kind of indication that would be okay
21 or --

22 A. We have not discussed that at all.

23 Q. Okay. Okay, what would be another alternative to
24 doing that?

25 A. Another alternative would be to take our

1 remediated soils out of the surface of the cell, stockpile
2 them. After we lay our clay layer down for our bottom
3 liner, would -- to take those soils and lay them over the
4 top of our clay liner to protect it.

5 EXAMINER JONES: Okay. Okay, any other
6 questions?

7 MR. DOMENICI: Yes, two -- two areas.

8 FURTHER EXAMINATION

9 BY MR. DOMENICI:

10 Q. Could you -- could actually landf- -- do you have
11 cells that haven't been used at all, that you could use for
12 landfill, that are within the footprint?

13 A. I believe I have one left, yes.

14 Q. But the other cells have all had some
15 remediation?

16 A. Correct.

17 Q. And so what you're describing is, you would do
18 something with those remediated soils?

19 A. Correct.

20 Q. Other than use them for the berm or the cover?

21 A. We can.

22 Q. And are you expecting to have an excess of what
23 you called overburden or excavated soils?

24 A. Yes.

25 Q. And in fact, where you -- you have to get rid of

1 the dirt in this project?

2 A. Correct.

3 Q. You'll have to get rid of clean dirt, in fact?

4 A. Yes.

5 Q. Because you're excavating those landfill cells
6 how much below the grade?

7 A. I believe our permit states up to 20 feet.

8 Q. So you have substantial amounts of clean soils
9 that are beneath any possible impact of the remediated --

10 A. Correct.

11 Q. -- soils? And that's what your intent is to use
12 for the cover?

13 A. Correct.

14 Q. And that can also be used for the berms?

15 A. Correct.

16 Q. There's plenty of that to use for berms too?

17 A. Yes.

18 Q. Now, let me ask you, in looking at Exhibit -- CRI
19 Exhibit 23 there, and also in recalling your -- you
20 indicated there are other documents in the -- that you
21 received from OCD that are not in that file. Have you ever
22 received a written finding by the Director of OCD that GMI
23 has a history of failure to comply with OCD Division Rules
24 and orders or any state and environmental laws?

25 A. None.

1 MR. DOMENICI: That's all I have.

2 MR. FELDEWERT: I have one follow-up -- two
3 follow-up questions.

4 FURTHER EXAMINATION

5 BY MR. FELDEWERT:

6 Q. You said you think you might have a cell
7 available that does not have salt-contaminated waste in it?

8 A. Correct.

9 Q. Can you identify that cell?

10 A. I believe it would be cell 22.

11 Q. Okay. And that's the only cell that you can
12 think of at this time?

13 A. Correct.

14 MR. FELDEWERT: That's all I have.

15 THE WITNESS: All right.

16 MR. FELDEWERT: Thank you.

17 EXAMINER JONES: Thank you, Mr. Gandy.

18 MR. FELDEWERT: We'll call James Bonner.

19 (Thereupon, the witness was sworn.)

20 JAMES A. BONNER,

21 the witness herein, after having been first duly sworn upon
22 his oath, was examined and testified as follows:

23 DIRECT EXAMINATION

24 BY MR. FELDEWERT:

25 Q. Mr. Bonner, could you please state your full name

1 and where you reside?

2 A. James A. Bonner. I live in Albuquerque, New
3 Mexico.

4 Q. And by whom are you employed and in what
5 capacity?

6 A. I'm employed by Gordon Environmental as a senior
7 environmental scientist.

8 Q. Are you a professional geologist?

9 A. Yes, I have a bachelor's of science degree in
10 geology and I'm a registered professional geologist.

11 Q. If we look at CRI Exhibit 6, is that your vitae,
12 résumé?

13 A. I have that in front of me here.

14 MR. APODACA: It's in the green binder, Mr.
15 Bonner.

16 THE WITNESS: Oh, okay. All right, sorry. Yes,
17 it is.

18 Q. (By Mr. Feldewert) And what is your field of
19 particular expertise?

20 A. I have about 30 years of geology experience in
21 both the mining and environmental sciences. My particular
22 field of expertise would probably be subsurface
23 investigation and hydrogeology.

24 Q. And does that involve an examination of soil
25 characteristics?

1 A. Yes, it does.

2 Q. Your résumé notes an involvement in a number of
3 subsurface investigations for waste-disposal permitting
4 issues in southeast New Mexico, right?

5 A. Yes.

6 Q. Okay, can you just briefly describe those for the
7 Examiner?

8 A. Yes, as a senior scientist with Gordon
9 Environmental, I've been involved with several solid waste
10 municipal landfills, the siting and permitting. This
11 includes Sandoval County Landfill, this includes Roswell
12 Municipal Landfill, and this includes Valencia County
13 Regional Landfill. My particular assignments with these
14 involved drillhole investigation of the subsurface,
15 interpretation, and helping in permitting, identifying site
16 selection characteristics for permitting.

17 Q. Now, you were involved with the approval of Gandy
18 Marley's application to operate a hazardous waste facility
19 known as Triassic Park, correct?

20 A. Yes, I -- prior to working with Gordon
21 Environmental, I worked with S.M. Stoller Corporation. And
22 as a geologist with S.M. Stoller Corporation, I was
23 involved in the initial -- the pre-siting and the siting of
24 the Triassic Park facility.

25 Q. And that is located roughly -- how far is it from

1 the site of the landfill operations?

2 A. The permitted Triassic Park facility is about a
3 mile, a mile and a half south and west of the landfarm
4 activity.

5 Q. To your knowledge, has that facility ever been
6 used?

7 A. No, it has not. It has been permitted, but it
8 has never been constructed.

9 Q. Have you testified before the New Mexico
10 Environment Department as an expert witness in
11 hydrogeology?

12 A. Yes, in conjunction with the Triassic Park
13 facility, I was an expert witness.

14 Q. As a result of your work in southeast New Mexico,
15 are you familiar with the geological and hydrological
16 conditions in and around Gandy Marley's proposed site for
17 his oil-and-gas-waste landfill?

18 A. Yes, I am.

19 Q. Are you familiar with the water sampling that
20 occurred in this area?

21 A. During the Triassic Park investigation, I was
22 involved in both the collection of samples and water-
23 sampling for the Triassic Park area and the surrounding
24 region.

25 Q. And have you reviewed the Application that has

1 been filed by Gandy Marley and submitted to the Division to
2 operate a landfill?

3 A. Yes, I have, I've reviewed the initial
4 Application and a couple of subsequent modifications.

5 MR. FELDEWERT: I would offer Mr. Bonner as an
6 expert witness in geological/hydrological conditions in
7 southeast New Mexico.

8 MR. DOMENICI: No objection.

9 EXAMINER JONES: Any other objections?

10 MS. MacQUESTEN: No objection.

11 EXAMINER JONES: Mr. Bonner is qualified as an
12 expert hydrogeologist.

13 Q. (By Mr. Feldewert) Would you turn to what's been
14 marked as CRI Exhibit Number 7?

15 A. Yes.

16 Q. Would you just identify that for the Examiner,
17 please, and explain to him what it shows?

18 A. Do we want to put -- I have a -- I have a larger
19 chart that shows it.

20 Q. Let's use that chair, and you can point to it if
21 you need to.

22 A. This is a topographic map of the area which
23 you've seen in several exhibits, and I don't there's
24 anything on there that hasn't been on the other exhibits,
25 we just compiled them all on one display chart.

1 Q. And does this show the landfarm -- proposed
2 landfarm area, in the square in the upper part of the
3 diagram?

4 A. Yes, this would be the -- this would be both --
5 both their landfarm operations, and this would be the
6 permitted Triassic Park facility.

7 Q. Okay. Now, there are four dots that go from east
8 to west across that facility. What are those dots?

9 A. Across the landfarm?

10 Q. Yes.

11 A. Those were -- those were geologic holes that we
12 drilled in 1994 for -- as part of the Triassic Park siting
13 study. We had already identified the Triassic Park region
14 and had drilled several -- we drilled 30-some holes in a
15 very tight grid across the Triassic Park, but then we also
16 branched out to look at some of the peripheral land
17 surround Triassic Park.

18 Q. Okay. Now, the dots that you show to the south
19 of that facility, what are those -- what do those dots
20 represent?

21 A. These were -- these were two pilot holes that we
22 drilled. We called them WW-1 and WW-2. The were pilots
23 for possibly conducting or completing a water well. They
24 were really not -- they were not drilled and completed as
25 water wells, they were deep boreholes, but we did find some

1 saturation in there, and so we put some temporary tubing in
2 so that we could produce and sample that water. But they
3 were never really drilled as water wells, they were pilots.

4 Now, these -- this WW-1 and WW-2, are the test
5 results from those wells attached to the Application that
6 was filed by Gandy Marley?

7 A. Yes, they are. They are the -- All the water-
8 quality data in those applications came from WW-1, WW-2,
9 and there's a PB- -- PB-14, which is actually, I believe,
10 called Well Number 3 in the Application. And we had --
11 those were the only -- those were the only boreholes that
12 we got any water quality out of.

13 Q. And the WW-1 and WW-2, the water sampling that
14 occurred out of those wells, was that from a shallow
15 formation or a deep formation?

16 A. Those holes were purposely drilled into the lower
17 Dockum. They were drilled 700 and 800 feet. We did not
18 want to drill any deep holes within Triassic Park, so we
19 went north and south and purposely went down close to the
20 Santa Rosa, tried to encounter the Santa Rosa sandstone
21 which underlies the lower Dockum.

22 Q. Okay, now those shows -- those wells indicate a
23 high TDS, correct?

24 A. Yes, the very southern -- the very southern well,
25 I believe, had a TDS of 18,800, and it only sampled the

1 deep lower Dockum aquifer, it did not go to the Santa Rosa.
2 There was no contribution at all from Chinle.

3 Q. Okay, so that sample was just from a deep
4 formation?

5 A. That's correct.

6 Q. Okay, what about the WW-1?

7 A. WW-1 also went down and encountered that deeper
8 -- that deeper section. Saturation continues up into the
9 -- up into the Chinle or the upper Triassic sediments in
10 this particular hole. So there is a chance that there is
11 contribution from both -- from both formations in that.
12 And it had a total TDS of about 11,000, I believe.

13 In the Triassic Park Application we threw that
14 one out for water quality, just because we think there
15 might be some commingling between the upper and lower
16 Dockum units, but we did not include that as a water-
17 quality sample for the Triassic Park permit.

18 Q. Okay. Now, the Gandy Marley Application attached
19 the test results from those two wells. But those two --

20 A. Three wells, they also included -- they also
21 included one hole, one shallow hole -- it was about a 100-
22 foot hole -- within the Triassic Park area.

23 Q. Okay. And so if you -- when you look at that
24 Application, two of the test wells, WW-1 and WW-2, would
25 have been from deeper formations, other than the

1 groundwater that was encountered below the landfarm
2 operations, correct? It would have been from formations
3 deeper than --

4 A. They were non-Chinle, they were non-Chinle
5 contribution, yes, deeper.

6 Q. Okay, so they would not be representative of the
7 groundwater that was encountered below his landfarm?

8 A. I don't believe the high TDS from those are
9 directly applicable to the upper Dockum.

10 Q. Okay. And which of the three test wells that he
11 attached his Application would have been most applicable to
12 the groundwater below his facility?

13 A. The hole -- the hole within the Triassic Park
14 area was -- their number 3 or PB-14, did sample some water
15 at the base of the Chinle on top of the lower Dockum.

16 Q. Now -- and would that be the most representative
17 well for the groundwater below his facility, with the
18 information we knew at the time?

19 A. Yes, at the time that was the only sample that we
20 could contribute to the Chinle, and that was the only
21 sample we had to characterize the groundwater from Chinle.

22 Q. And what was the TDS of that well?

23 A. It's 4900, in that neighborhood.

24 Q. When -- have you reviewed -- Did you get a chance
25 to review the request for the emergency order that was

1 filed by Gandy Marley with the Division?

2 A. Yes, I did, I've looked at that.

3 Q. And is that marked as Exhibit -- CRI Exhibit
4 Number 1?

5 A. Yes, it is.

6 Q. When it states in there, depth of the groundwater
7 at the landfarm -- well, let me back up. Do you see the
8 line where it says depth of groundwater at the landfarm?
9 About four --

10 A. Oh, yes, yes, I do.

11 Q. Okay.

12 A. 100 feet to water --

13 Q. All right.

14 A. -- or excuse me, 150 feet to water, yes.

15 Q. And they responded by indicating 150 foot to
16 water, right?

17 A. Yes.

18 Q. Okay. And then they say TDS in excess of 15,000
19 parts per million.

20 A. Yes.

21 Q. Now, based on the information that they had
22 available in their files at the time that they filed this
23 Application, are you surprised at that representation?

24 A. Well, I think they used -- they used all three of
25 the holes that they have information on, not just the hole

1 from the Chinle. Probably the most accurate representation
2 would have been the 4900 value that they had at the time.

3 Q. Okay, have you -- Have you reviewed Gandy
4 Marley's permit file for the approval that was granted in
5 1994 to operate a surface landfarming operation?

6 A. Yes, I have.

7 Q. Okay. And if we could turn to that file, or that
8 permit, which I think is CRI Exhibit Number 4 --

9 A. Four.

10 Q. -- 5.

11 A. Four.

12 Q. Let's see, the permit is -- or the application
13 was 4, the approval was 5.

14 A. Okay, all right.

15 Q. You've had a chance to review those permit
16 requirements? Mr. Bonner, have you had a chance to review
17 the --

18 A. Yes, I have looked at this, I'm reading again to
19 refresh my memory. But yes, I have. I have looked at
20 this.

21 Q. Do you recall steps that were taken by the
22 Division in issuing this permit to protect the groundwater
23 below Gandy Marley's landfarming operations?

24 A. Yeah, I think they had some provisions to remove
25 ponding from the -- from any of the cells, to -- if they

1 had any borings into the treatment zone, that they should
2 fill those with impermeable bentonites, they should not
3 introduce any liquids into the cells.

4 Q. Now, you mentioned these boreholes. They were
5 required to be filled with impermeable materials?

6 A. Correct.

7 Q. And that is indicated on page 4 of this permit,
8 correct? Treatment -- under "Treatment Zone Monitoring"?

9 A. Yes, it is.

10 Q. And it says in paragraph 3, "After the soil
11 samples are obtained, the boreholes will be filled with an
12 impermeable material such as cement or bentonite." Right?

13 A. Correct.

14 Q. Why was it necessary to fill these holes with
15 impermeable materials such as cement or bentonite?

16 A. I think the conditions are there to try to
17 prevent any type of surface contamination going down into
18 the -- below these units, introduced through these
19 boreholes, through these perforations.

20 Q. So the Division was undertaking steps in issuing
21 this permit to ensure that the landfarm operations would
22 not contaminate the groundwater below his facility?

23 A. That's -- That would be the idea of any of this,
24 to keep any downward percolation through these
25 penetrations.

1 Q. Now, you mentioned you did an analysis of the
2 soils in this area, correct?

3 A. Through the -- Yes, we drilled a line of four
4 drillholes through the area that became the landfarm.

5 Q. And did you find a continuous layer of clay bed
6 underlying this landfarm facility?

7 A. Through those holes and through all the prior
8 holes, before we even got to that -- and I believe I saw a
9 report, a 1993 report, that was Exhibit 2 and 3 from Gandy
10 Marley that cited a 1993 investigation that we -- we cover
11 a fairly large area of very -- with very shallow drilling,
12 looking for the proper siting criteria for the Triassic
13 Park.

14 And so we drilled 50-some holes, probably, at
15 that time, probably drilled another 38 holes during the
16 Triassic Park evaluation. And through that, we got a
17 fairly good characterization of the nature of the sediments
18 overlying the lower Dockum clays.

19 And that characterization would be, it's a low-
20 energy fluvial environment with channel sandstones that are
21 very lenticular. That means they are very -- they are not
22 correlatable over any large distance, they are
23 discontinuous both laterally and vertically. So it is a
24 channel system that grades from fine-grained sands into
25 mudstones. And it's difficult at best to correlate over

1 large distances.

2 Q. How does that finding relate to your findings
3 with respect to the location of the Triassic Park facility,
4 which is south of Exhibit 7?

5 A. Triassic Park was sited where it is so that it
6 could -- so it was a little deeper in the section, so it
7 could rest directly onto the -- what we call the lower
8 Dockum, which is 600 feet of very low-permeability clays.
9 So it was located where it is so it could rest on a very
10 impermeable unit.

11 Q. That's a -- This low-permeability clays in the
12 lower Dockum, is that a continuous barrier?

13 A. That is -- that's very continuous. This is --
14 These are lacustrine units, which are lakebeds, very large-
15 scale lakebed development from these lacustrine sediments
16 are widespread for miles and miles. And so that's a very
17 continuous, mappable, predictable lithology.

18 Q. Okay. Now with respect to the upper Dockum area
19 underlying the landfarm, did you encounter some clays?

20 A. Absolutely. We include -- We encountered what
21 you would expect to in a fluvial environment, and that's
22 low-energy, meandering channels which grade from fine-grain
23 sandstone laterally to a mudstone, to clays, within a
24 matter of hundreds of feet. And so very discontinuous.

25 Dr. Mansker directed our attention to a drill

1 hole log yesterday, which I believe was PB-1 --

2 Q. Uh-huh.

3 A. -- and that was an example of how in this fluvial
4 environment you can see -- I believe there was only 10 or
5 20 feet of sand in that entire 200-foot section. It was
6 predominantly clay.

7 Now a half a mile to the east, the very next
8 hole, which we had an e-log from, electric log, from
9 yesterday, was probably 70-percent sand-to-clay ratio. So
10 I mean, that shows you how quickly these fluvial
11 environments can go back and forth between a sand and a
12 clay environment.

13 Q. Before we look at those logs, can you orient us
14 on your map to which boreholes you're talking about?

15 A. Which was the one that Dr. Mansker was looking at
16 yesterday?

17 A. These are the four holes that we drilled in 1994.
18 I believe this is PB-1 that we looked at yesterday. I
19 think we have samples here.

20 Q. Okay.

21 A. We put these on as general representations. I
22 think they're fairly close, but this is the area that MW-1,
23 MW-2 more recently --

24 Q. Those are the new wells?

25 A. Those are the new wells that were completed

1 earlier this month.

2 Q. Okay.

3 A. And then a half a mile from this PB-1 is a hole
4 that shows almost the reverse in the amount of sand-to-clay
5 ratio that we saw in PB-1, and that's very typical of these
6 environments.

7 Q. Okay, let's go to that exhibit, Gandy Marley
8 Exhibit Number 22, and then also pull out Gandy Marley
9 Exhibit Number 23.

10 A. Okay.

11 Q. Have you got number -- Have you got Exhibit 22?

12 A. I have 22 in front of me.

13 Q. Did you find 23?

14 A. I have 23.

15 Q. Okay, great. The first page of this Exhibit 22,
16 that's PB-1. That is the well that was located just
17 outside the -- this facility, correct?

18 A. Yeah, this is -- no, this is -- That's right,
19 this is PB-1, right there.

20 Q. That's PB-1, okay. And if we go to the next log
21 on Exhibit 22, that is PB-26?

22 A. Correct.

23 Q. And that's the red dot in the middle of the
24 landfarming operations?

25 A. That's a half mile to the east of PB-1.

1 Q. Okay, and to be fair, that's -- I guess the
2 landfarming operations are in the top half of that square,
3 and so that's just below the edge of the landfarming
4 operations?

5 A. Of the OCD landfarming, correct.

6 Q. Okay. All right, and when you take a look at
7 PB-1 versus PB-26, can you kind of walk us down what you
8 see in PB-1 first?

9 A. Well, I think Dr. Mansker did a good job of
10 walking us through this yesterday.

11 Q. Uh-huh.

12 A. The top 30 feet would be a fine-grained alluvial
13 sandstone --

14 MR. APODACA: Mr. Feldewert, could you orient us
15 one more time on PB-1 and PB-26, using --

16 MR. FELDEWERT: Sure.

17 MR. APODACA: -- the red dots?

18 MR. FELDEWERT: I'll have the -- PB-1 --

19 THE WITNESS: Oh, okay, all right. PB-1, and
20 that's the one we're talking about right now, is right
21 here.

22 Q. (By Mr. Feldewert) And then PB-26 is what --

23 A. PB-26 is a half mile to the -- to the east.

24 EXAMINER JONES: East.

25 Q. (By Mr. Feldewert) And then the two dots in

1 between that we show on our exhibit, two diagonal dots -- I
2 think they're in red -- those are the two new wells,
3 correct?

4 A. Correct.

5 Q. And I think Mr. Mansker has said those were about
6 200 to 300 feet apart?

7 A. He said two or three hundred yards --

8 Q. Two hundred, three hundred yards, I'm sorry.

9 A. -- so probably 600 to 800 feet.

10 Q. Thank you, two to three hundred yards.

11 All right. Now, you said he walked us through
12 the PB-1 --

13 A. He -- Dr. Mansker walked us through PB-1
14 yesterday and -- and very well. You know, it shows
15 alluvial sands on the surface, 30 feet of it, dropping
16 immediately into low-permeability mudstones. And those
17 mudstones continue, you know, all the way down into the
18 140-foot area where you start seeing some sands, and maybe
19 start seeing some silts in the 120-foot area. But you see
20 a substantial mudstone or clay zone there, as he pointed
21 out. And the electric log shows that, as does the
22 lithology log.

23 Q. Okay, if we go to the next log, which is PB-26 --

24 A. Right.

25 Q. -- in comparison, what does that show us? And

1 this is a half mile away, correct?

2 A. This is a half mile to the west -- excuse me, to
3 the east.

4 Q. Okay.

5 A. Shows the same 30 feet of alluvial sands. But
6 then you get immediately into some sandstones, and so
7 you're staying in some of these fine-grained sandstones
8 probably down to -- it looks like there's a good five-foot
9 clay zone down around the 80-foot mark. There's a -- and
10 you get the right kind of -- you see the gamma-log increase
11 to the right, you see the neutron log deflecting off to the
12 left, indicating that there's probably more moisture,
13 there's probably more conductivity in that, due to clays
14 and moisture.

15 You get immediately back into a sandstone, and
16 then at the bottom of 100 feet it looks like you drop into
17 another seven or eight feet of mudstones and clays and so
18 forth.

19 And so -- So we are seeing mudstones, still,
20 we're still seeing sands. But the ratio has almost flip-
21 flopped from the hole that is a half a mile away. And --

22 Q. And for the record, and for people like myself
23 that don't know this, when you talk about sand and
24 siltstones, is that more permeable than the clay?

25 A. Sandstones would be much more permeable, yes.

1 Yes, that's what the -- the fluid will move through the
2 sandstones. The clays are -- will become your barriers --

3 Q. So --

4 A. -- or at least slow down migration.

5 Q. -- if the water is coming down through the sands
6 and it hits a -- like on here, it looks there's a -- what,
7 five-foot-of-clay portion?

8 A. Correct.

9 Q. Will the water then -- It goes past the leach
10 resistance; is that right?

11 A. That's right. In this case, if these sands are
12 dipping -- which they are, they're dipping about one degree
13 to the east -- fluid movement through those sands would hit
14 an impermeable barrier or a slow barrier, and it would
15 migrate on top of that.

16 Q. Okay, it would migrate on top of that until it
17 found -- if one exists, at another --

18 A. That's right, if that goes away then it would
19 drop down into another unit.

20 Q. So there used to be a game where you put a ball
21 in the top and it would go down these slides and kind of go
22 from to the other and --

23 A. It would look a little bit like that, yeah.

24 Q. Okay. Now, do you have a depiction of what these
25 logs show?

1 A. Well, these logs, the particular logs we're
2 looking at in conjunction with the other 80 holes or so
3 that we drilled in this area, if I were to try to
4 characterize the clays or the mudstones versus the sands, I
5 would -- you know, it approaches a 50-50 ratio between
6 sands and -- a lot of times in geology you'd use sand-clay
7 rat- -- or sand-shale ratios. This would be a sand-clay
8 ratio, but it would be -- we're approximating a 50-50
9 ratio.

10 If you look at the entire area, if you look at an
11 area larger than a square mile, you start looking at very
12 close to a 50-50 ratio between the sands and the clays
13 contained in those holes.

14 Q. And if we look at the data that we have, the data
15 that we have specific to the landfarm facility, what
16 conclusions do you draw about the nature of the upper
17 Dockum underneath this particular landfarm facility?

18 A. Just that it has that interbedded nature. If you
19 ask me, can I predict whether there's going to be a
20 continuous clay layer here, I would say probably not. If
21 you ask me if there was going to be a sand in the
22 particular spot, knowing the very complex, interbedded
23 nature of these things, I think it's very unpredictable.

24 Now, when I was a geologist in the mining
25 industry, uranium industry, we drilled thousands and

1 thousands and thousands of holes delineating channels and
2 fluvial environments, looking for the margins because
3 that's where the orebodies were. So these things are hard
4 to predict. And so --

5 Q. And for the record, if we go to Gandy Marley
6 Exhibit 23 -- which you have in front of you, I think,
7 right?

8 A. Yes, I have it.

9 Q. Okay. I'm looking at a handwritten log --

10 A. I don't have it now. What --

11 Q. Look for the handwritten logs. It should be
12 Gandy Marley Exhibit 23.

13 A. Oh, okay, I'm sorry. Yes, yes.

14 Q. Okay. The page that would correlate to PB- --
15 What was that, PB- --

16 A. -- -26.

17 Q. -- -26, thank you. These pages, unfortunately,
18 are not numbered, but you go through the lithology logs,
19 about halfway through -- Hold on a minute.

20 DR. MANSKER: Kind of reverse-numbered.

21 THE WITNESS: Yeah, they're in order.

22 Q. (By Mr. Feldewert) Are they in order?

23 A. Yeah.

24 Q. Reverse order?

25 DR. MANSKER: Backward.

1 Q. (By Mr. Feldewert) Thank you, okay. If we can
2 get to the lithology log for PB-26 --

3 A. That's right.

4 Q. All right. And that basically -- these are --
5 Are these notes you took?

6 A. Yes.

7 Q. All right. So you were involved in this project,
8 you were out there taking notes?

9 A. Yes.

10 Q. And are these notes consistent with what you've
11 just described for us, having looked at this -- at this --

12 A. The electric log.

13 Q. -- electric log for PB-26, which is part of
14 Exhibit 22?

15 A. Yes, they both show a considerable amount of
16 sandstone in the subsurface in this Chinle formation.

17 Q. Now, when you were out there studying this area
18 for Triassic Park facility, were you part of the team that
19 came to the conclusion that this was not -- that this
20 landfarm site, the site which is now a landfarm -- were you
21 part of the team that came to the conclusion that that was
22 not a good site for a landfill that was going to accept
23 materials that are hazardous in nature?

24 A. Well, as pointed out in that 1993 report -- which
25 is, I think, Gandy Marley Exhibits 2 and 3' -- we had very

1 specific criteria. I mean, we were looking for an area
2 where we didn't have a lot of alluvium. That was one of
3 the primary areas that we were looking for. We were
4 looking for the presence of clays.

5 We only drilled 40-foot holes, so 40-foot --
6 maybe there were a couple 60-foot holes, but these were
7 very shallow holes. And so we were not doing detailed
8 formational, you know, research here. We were looking very
9 quickly to see how thick the alluvium was, and were there
10 any sands at all? And we did notice up in that area that
11 we were seeing, you know, 30 to 35 feet of alluvium, which
12 we didn't want to see in Triassic Park. And we did see
13 some sands underlying the alluvium, which again we didn't
14 want to see in Triassic Park.

15 And so this area was ruled out, and we moved on
16 to the south.

17 Q. Okay. Now, I mentioned -- Do you have an exhibit
18 that kind of summarizes in a picture your conclusions about
19 the circumstance -- the soil -- or the circumstances within
20 the upper Dockum and the lower Dockum in this area?

21 A. Yes, we did put together a drawing, and I believe
22 it's --

23 Q. Is it CRI Exhibit Number 8?

24 A. Yes, it is.

25 Q. Okay. And just -- could you just quickly

1 describe for the Examiner what you're showing with this
2 exhibit?

3 A. This is a cartoony diagram, but it does show the
4 lower Dockum as being the -- very thick. This doesn't show
5 the entire thickness, but it is a -- it's a 600-foot
6 thickness of low-permeability clays. The Triassic Park
7 disposal facility was permitted to rest on top of that.

8 And then what we found elsewhere above the lower
9 Dockum, what we found in the upper Dockum and what we call
10 the Chinle formation, we found this fluvial depositional
11 environment that shows the inter-tonguing of sands and
12 mudstones. And I would hazard a -- well, I wouldn't hazard
13 a guess, I would estimate from looking at the -- hundred of
14 holes I drilled in the area that this sand-clay ratio is
15 close to a 50-50.

16 Doesn't say that in any one spot you can't drill
17 a hole and see clay. You can see -- we drilled holes and
18 saw nothing but clay. On the other hand, we drilled holes
19 that we didn't see much clay at all. So all I'm saying is,
20 there's a lot of inter-tonguing going on here. There's a
21 lot of lateral and horizontal discontinu- -- unconformity.

22 Q. If we're dealing with oilfield waste, like we are
23 here -- okay? -- would -- in terms of the geology out
24 there, would the Triassic Park facility location be a
25 better choice than the land- -- the location of the

1 landfarm, in your opinion?

2 A. Triassic Park has a -- of the two, is the better
3 setting, yes, if you're asking me.

4 Q. Okay. In your opinion, do we have evidence,
5 enough evidence, to indicate that Gandy -- that there is a
6 natural barrier below Gandy Marley's landfarm operations,
7 that will protect the perched aquifer that exists below his
8 landfarm facility?

9 A. I guess my testimony is, we don't have proof of a
10 continuous layer, we don't have proof of a geologic
11 barrier. And for that reason, I think it should have an
12 engineered barrier as you move from a landfarm operation to
13 a disposal, to disposal cells, I think, because the other
14 option would be to drill 300 drillholes in this area or put
15 an engineered barrier beneath these disposal cells, because
16 I don't think you can predict that there will be a natural
17 barrier there.

18 Q. Okay, and you're not here to testify on the type
19 of engineered barrier that should exist at this facility,
20 are you?

21 A. No, no, I'm just saying it's -- the geology is
22 unpredictable enough that I think it requires an engineered
23 barrier.

24 Q. Now, we had some -- you've talked about what I
25 would call -- is that vertical migration concern?

1 A. Yes.

2 Q. Okay, and you went down; Dr. Neeper yesterday
3 talked about going up. Does this interbedding of sands and
4 clays present an issue of horizontal migration of fluids?

5 A. Yes, it does. We talked a little bit, we heard
6 testimony yesterday, about the perched-water tables, they
7 found perched -- what they're calling perched water in
8 monitoring wells. I believe PB-1 had a perched water table
9 in it, I believe PB-26 had a perched water table in it.

10 We also talked about the source of that water,
11 and it's -- most people will agree that the likely source
12 of that groundwater for those perched water table is the
13 Ogallala. The Ogallala overlies this by 200 to 400 feet.
14 The only way those fluids could have got to those perched
15 levels was downward migration and movement to where they
16 are now trapped as perched water tables.

17 But just the presence, I think, shows the fact
18 that there can be downward percolation through these sands
19 and that there is some continuity to allow that to happen.

20 Q. Mr. Bonner, in your opinion, having studied this
21 area extensively over the last 10 to 20 years -- well, no
22 10 years, 10 years, I'm sorry, I didn't want to make you
23 that old -- but since 1994, 1994 -- right? -- you've been
24 looking at this area on and off since --

25 A. I started in 1993.

1 Q. Okay. In your opinion, does the geology
2 underlying Gandy Marley's landfarm facility present
3 concerns about both vertical and horizontal migration of
4 any wastes that are buried there over time?

5 A. Over time? Over time, yes. Yes, I think there
6 is that possibility. And again, that's why I think you
7 can't rely on geologic barriers.

8 Q. And in your opinion, would the best site for this
9 type of a disposal facility be at the Triassic Park site?

10 A. Given the proper engineered barriers, I think
11 there's -- I think their -- I think their site is -- you
12 can make disposal cells there, given the proper engineered
13 barriers.

14 Q. Uh-huh. In your opinion, though, if they're
15 going to dispose of oilfield wastes in this area, you need
16 some kind of an engineered barrier, correct?

17 A. That's correct.

18 MR. FELDEWERT: All right. That concludes my
19 examination of this witness.

20 EXAMINER JONES: Mr. Domenici?

21 CROSS-EXAMINATION

22 BY MR. DOMENICI:

23 Q. Mr. Bonner, I think you testified you worked on
24 the Triassic project, so you actually worked for my
25 client --

1 A. Absolutely.

2 Q. -- for quite a -- several years, and did a lot of
3 work for them; is that correct?

4 A. Yes, I did.

5 Q. And I first met you when you testified at the
6 Triassic hearing.

7 A. That's correct.

8 Q. And I want to make one thing clear. Are you
9 changing any of your opinions that you had at the Triassic
10 hearing?

11 A. I am not.

12 Q. Have you received any data since you testified
13 that would cause you to change to any opinions or any
14 testimony you made at the Triassic hearing?

15 A. Absolutely not.

16 Q. And I want to be crystal-clear for the record.
17 All of your testimony you've given now addresses concerns
18 in the upper Dockum, correct? All your testimony about
19 concerns and an engineered assumes that you are trying to
20 protect the perched water that sits between the upper and
21 lower Dockum, correct?

22 A. That's correct, that's -- yeah, I said you should
23 have an engineered barrier between a disposal cell and
24 perched water in this area, correct.

25 Q. Okay. You do not -- You're not testifying that

1 an engineered barrier is necessary to protect the water
2 that was found in the two wells you described and that's at
3 600 or 800 feet, that is below the lower Dockum, correct?

4 A. Absolutely not.

5 Q. So if, in fact, the perched water is not entitled
6 to protection, your testimony is that no engineered barrier
7 is necessary, correct?

8 A. If it is not protected?

9 Q. If it is not protected, your testimony is that
10 there is no engineered barrier necessary to protect the
11 next water that you would identify, which is at the lower
12 Dockum?

13 A. Yes, I'm talking about protectible water. I
14 think there --

15 Q. I'm asking you to assume that the protectible
16 water is the water that you discovered in those wells that
17 you said were improperly used by my client in their
18 emergency application --

19 A. The Santa Rosa.

20 Q. Santa Rosa --

21 A. Okay.

22 Q. -- assume that is the protectible water. Your
23 testimony is that no engineered barrier is necessary to
24 protect that water, correct?

25 A. You don't need a barrier to protect yourself from

1 Santa Rosa saturation.

2 Q. And in fact, that's what the groundwater waiver
3 was, the Application that Triassic filed, that you
4 supported and that was granted by the New Mexico
5 Environment Department, correct?

6 A. Absolutely, absolutely.

7 Q. The said there's no need to monitor the Santa
8 Rosa water, because the lower Dockum protects it?

9 A. That's correct, and I --

10 Q. So all of your testimony now is based on the fact
11 and assumption that the perched water is protectible?

12 A. Absolutely, yes.

13 Q. And let's talk about the perched water. Isn't it
14 true you testified that the perched water is in
15 equilibrium, in the Triassic hearing?

16 A. That the water flowed down and came to
17 equilibrium, yeah.

18 Q. That's correct?

19 A. That's right.

20 Q. And that means --

21 A. With where it was coming in from, from where it
22 was entering the hole.

23 Q. The perched water is in equilibrium?

24 MR. FELDEWERT: Asked and answered.

25 Q. (By Mr. Domenici) Correct?

1 A. Yes.

2 Q. And that means that it does not -- that if -- let
3 me -- let me make sure I'm correct in understanding this.
4 If something reaches that perched water, whether it's other
5 water or something carried by the water, that will not
6 move?

7 A. What I meant by equilibrium was, if you drill
8 through a perched zone, at 150 feet -- and the hole was
9 drilled to 200 feet -- that hole would fill up to the point
10 that the water was entering that hole, and it's at
11 equilibrium at that point. It doesn't mean there's that
12 much water in it, but it's at equilibrium. It's at -- Yes.

13 Q. And you were asked in the Triassic hearing as how
14 long you thought it took for the perched water to develop
15 in these -- in what you called trapped -- become trapped
16 within a sandstone lens? Do you recall that question?

17 A. I remember talking about PB-14, and I remember
18 describing PB-14 as stratigraphically trapped water. It is
19 not water that we assumed was coming from the Ogallala. I
20 think the source of the water in PB-14, or well number 3,
21 is probably different than the stratigraphic -- or than the
22 perched water that we're seeing closer to the rim.

23 So yes, I do remember that.

24 Q. And the perched water closer to the rim, that was
25 in MW-1; is that --

1 A. MW-1 we threw out, because we showed the water
2 level went up into the lower Dockum. Did it all come from
3 lower Dockum or did it all come from upper Dockum? Because
4 both of them were penetrated. We really couldn't tell.
5 There was maybe some commingling there. For the Triassic
6 Park, we threw that out.

7 Q. Well, what data did you have of perched water, or
8 any water closer to the Ogallala, to the east?

9 A. That would be the two wells up here. That would
10 be PB-1 and PB-26, is where we saw saturation at between
11 130 to 180 feet.

12 Q. And you explain the water in that area as coming
13 from -- probably coming from the Ogallala --

14 A. That is correct.

15 Q. -- the leakage from the Ogallala?

16 A. That's correct.

17 Q. And you called that perched water --

18 A. That's correct --

19 Q. -- in the Triassic?

20 A. -- yes.

21 Q. Do you still call that perched water?

22 A. Yes, I do.

23 Q. And perched water means it's noncontinuous?

24 A. It means there's an unsaturated zone below it,
25 yes.

1 Q. And you said it was trapped in small sandstone
2 lenses in the upper Dockum, correct?

3 A. Correct.

4 Q. What is the well that's furthest to the east
5 there, the PB well that goes through the middle of the
6 landfill? What well is that? Do you know what number that
7 is? To the east. The far end --

8 A. Oh, here?

9 Q. Yeah, what's that?

10 A. 27.

11 Q. So you didn't find water in that one?

12 A. That was -- There was no saturation in that one.

13 Q. And how deep -- how was that drilled to?

14 A. All of those were 200-footers.

15 Q. So you found -- So going along that cross-
16 section, you found an area to the east that had no water?

17 A. Yes.

18 Q. And so the water in the other wells you attribute
19 coming from the Ogallala to the west of that?

20 A. PB-1 and PB-26, we attributed that to leakage
21 coming out of the Ogalline Ogallala, yes.

22 Q. Which didn't go through the cross-section that
23 you drilled through, or through the area you drilled
24 through on PB-27, correct?

25 A. It did.

1 Q. Okay, why didn't you find water in 27?

2 A. Because it wasn't there. And we logged it, we
3 logged it with electric logs, and there was no water there.

4 Q. So it went through there --

5 A. I tried.

6 Q. You looked for it, you looked for it, your
7 testimony is, it went through there sometime in the
8 geologic past, and it's not there anymore, correct?

9 A. No, I'm saying -- that's a half a mile away, and
10 I'm saying in these fluvial environments that's a whole
11 different ball game. You can see all kinds of inter-
12 tonguing and inter- -- and pinching out of channels and
13 whatever. There were sands there, but how they are
14 connected to the sands a half a mile away, it's a very
15 complex situation. And obviously there is no direct
16 correlation between those two, or it would have been. So I
17 think we're again looking at that fluvial depositional
18 environment to explain that.

19 Q. And some barrier -- some barrier prohibited
20 Ogallala water from being in PB-27?

21 A. Yes.

22 Q. And that's a natural barrier?

23 A. That would be a natural barrier, yes.

24 Q. A geologic barrier?

25 A. Yes.

1 Q. Is it correct that the upper Dockum is
2 approximately 65 million years old?

3 A. 65 million? I think it's a little older than
4 that.

5 Q. Okay. And has it been in -- How long has that
6 perched water been leaking from the Ogallala to establish
7 these trapped sandstone lenses? All of that 65-million-
8 plus.

9 A. That would be eroded back, so it's -- it's been a
10 long time. I -- you know, the Ogallala is not -- is
11 probably younger than 65 million years, but it's -- this
12 has probably evolved over millions of years.

13 Q. So it's taken millions of years to have these
14 trapped sandstone lenses in parts of the upper Dockum?

15 A. That's reasonable.

16 Q. And they don't extend under the Triassic
17 property. Are you comfortable with that conclusion?

18 A. That's correct.

19 Q. And -- The porosity of the clay layers that are
20 in the upper Dockum, would you agree with Dr. Mansker's
21 testimony yesterday as to what those porosity values are,
22 or permeability?

23 A. Yes, we did some coring during the site
24 evaluation and took some split-spoon samples for
25 permeability analysis and had some very -- very tight --

1 very low permeabilities within those upper Dockum clays,
2 yes.

3 Q. So you're not challenging --

4 A. Absolutely not.

5 Q. -- his testimony?

6 Can you describe the gradation [sic] of the
7 sandstones?

8 A. The which of the sandstones?

9 Q. Gradation of the sandstone lenses.

10 A. The gradation? Usually it's -- In a typical
11 channel sandstone you will see a fining-upward sequence, if
12 this is what we're talking about, gradation. You will see
13 the coarsest amount of -- the coarsest material in the base
14 of the channel sandstone, and as you progress up through
15 its thickness it will get thinner and thinner, as opposed
16 to a deltaic sandstone, for instance, where you'll see just
17 the reverse of that. And that's a reflection of the
18 depositional environment.

19 Q. You're not prepared to offer any opinions other
20 than what you've already testified today; is that correct?

21 A. That's correct.

22 Q. And you haven't prepared any testimony other than
23 what you've testified to today?

24 A. No.

25 Q. Now, you were asked to compare the suitability of

1 two sites, the Triassic site, and the landfarm site, in
2 your testimony, correct?

3 A. I was asked -- that was not an assignment of mine
4 to compare the two. The question was answered, yes --
5 asked, yes.

6 Q. And have you reviewed the CRI, your client's,
7 hydrogeology?

8 A. No, I have not.

9 Q. Can I present that to you, and would you be able
10 to provide us a comparison like you did for the Triassic
11 location?

12 MR. FELDEWERT: Mr. Examiner, I would object to
13 this line of questioning, based on your ruling yesterday.
14 This is not relevant to the proceedings here before the
15 Division. We're here to examine the suitability of the
16 landfarm.

17 MR. DOMENICI: I think they asked him to compare
18 another site, and I think they've raised that issue of
19 comparison and his ability to compare sites, and I don't
20 think we should be prohibited, saying they can only compare
21 -- they can only choose to compare sites they want, and we
22 can't provide any.

23 MR. APODACA: Which sites are you contending they
24 asked the witness --

25 MR. DOMENICI: They asked --

1 MR. APODACA: -- to compare?

2 MR. DOMENICI: -- about the Triassic -- There's
3 two blocks on the map. They asked about the Triassic site,
4 which I would consider would be the left block on the
5 exhibit.

6 MR. FELDEWERT: Mr. Examiner, they introduced a
7 number of exhibits dealing with the Triassic Park site and
8 their landfarm facility. They made efforts to kind of
9 combine the two together. We've undertaken in great pain
10 to try to separate the two out. They have brought the
11 issue of Triassic Park into this case, not us. And CRI's
12 facility is not in this area. We are focused on this
13 particular area. They have defined the area, and that is
14 what we are focused on here today. If we start going out
15 into other areas in terms of the geology in other areas and
16 the hydrology in other areas, we could be here for a very
17 long time.

18 MR. APODACA: Mr. Domenici, what relevance does
19 hydrology at the CRI site have to do with the pending
20 Application before the Hearing Examiner?

21 MR. DOMENICI: It would go to impeach his
22 position that an engineered barrier is necessary at this
23 site.

24 MR. APODACA: Can you show that --

25 MR. DOMENICI: Unless I'm prepared -- unless he's

1 prepared to say that CRI is required to have an engineered
2 barrier. If the conditions are the same, I would like to
3 ask him, and then I would like to ask him to compare the
4 standards that OCD uses and apply those, as opposed to his
5 own geology.

6 MR. APODACA: So your purpose in bringing this
7 matter of the CRI hydrogeology report in is to test the
8 witness's credibility with respect to engineered barrier?

9 MR. DOMENICI: Yes, that's his opinion, is that
10 this site, our proposed site, needs -- requires an
11 engineered barrier. I would like him to look at similar
12 geology and testify as to whether that geology has the same
13 requirements in his geologic opinion.

14 (Off the record)

15 MR. FELDEWERT: Mr. Examiner, if I may add, he
16 has not studied the CRI site, he has not had an opportunity
17 to review the data that was involved in that proceeding.
18 Are they going to introduce bits and pieces of that and
19 then ask him to draw a comparison? That's not fair to this
20 witness, it's not fair to us. They haven't indicated an
21 intent to present this kind of testimony.

22 MR. APODACA: Mr. Domenici, we did rule yesterday
23 that the conditions and the characteristics of the CRI
24 permit are not relevant to this proceeding, because this
25 proceeding is focusing on the permit Application of Gandy

1 Marley. We believe it would be inconsistent to now attempt
2 to bring in geological, hydrological reports pertaining to
3 that facility, into this proceeding, through this witness.

4 If you want to test the witness's opinion with
5 respect to engineered barriers, then I suggest you do so
6 through other means than trying to introduce testimony or
7 evidence regarding the CRI site.

8 Q. (By Mr. Domenici) Well, let me ask you to -- I'm
9 going to ask you to make a hypothetical, and I'm going to
10 give you some geohydrologic information, and let me ask you
11 if you think this information is sufficient to -- in your
12 opinion, for a site to be allowed without an engineered
13 barrier.

14 I want you to assume that beneath a site that
15 will -- that proposes to accept oilfield waste, groundwater
16 with a TDS of 1100 is identified at a depth of 40 feet,
17 that the profile of the geology above that 40 feet is
18 caliche, sand, sand and gravel, and four feet of redbed
19 Triassic clay.

20 Does that -- does that profile, in your opinion,
21 provide sufficient geologic protection where an engineered
22 barrier is unnecessary?

23 A. I guess I would want to know some of the
24 characterization of the redbed, but I would like to have a
25 little thicker sequence of clay.

1 Q. How much thicker? How thick a redbed clay would
2 be -- in your opinion, would be sufficient to protect
3 perched water?

4 A. I guess I would pass that off to a geotechnical
5 engineer.

6 Q. Why is that? Why would you pass that off?

7 A. My experience has been in characterizing sites,
8 identifying lithologies, certainly taking samples of those
9 lithologies. In the case of the Triassic Park, we're
10 dealing with a 650-foot thickness of very-low-permeability
11 clays. You know, very comfortable in establishing that as
12 something that doesn't need any kind of monitoring at depth
13 for something like that.

14 Where does that change? I guess I don't know.
15 You know, at 200 feet, at 100 feet? I've never done that
16 kind of analysis.

17 Q. And you're not stating with respect to the Gandy
18 Marley landfarm or this hypothetical site in either
19 circumstance that you can make that complete decision
20 without the assistance of a geotechnical engineer?

21 A. I can offer my opinion, and it would be worth
22 about what my opinion is. And I don't know that what good
23 that does.

24 Q. Looking at your diagram on Number -- Exhibit
25 Number 8, do you recall preparing cross-sections as part of

1 your testimony in Triassic, showing the characteristics of
2 the upper Dockum?

3 A. I'm sure I did.

4 Q. Have you reviewed what you did in the Triassic --

5 A. I did not review Triassic -- I don't have a copy
6 of the Triassic Park Application, so...

7 Q. Did you review your testimony from Triassic for
8 today?

9 A. I did not.

10 Q. Is it accurate to characterize the upper Dockum
11 as red-brown mudstone, interbedded with siltstone and silty
12 sands?

13 A. Uh-huh.

14 Q. Is that your testimony today, as to what -- as to
15 a characterization of the upper Dockum?

16 A. Yes, yeah, my testimony today was, you're looking
17 at interbedded sands, silts and mudstones, correct.

18 Q. And when you state as a geologist that's -- on a
19 drill log, you characterize a cross-section as red-brown
20 mudstone interbedded with siltstone and silty sands, you
21 are saying it's predominantly red-brown mudstone?

22 A. In that spot, absolutely.

23 Q. Looking at your Exhibit 8 -- Do you have that in
24 front of you?

25 A. Yes, I do.

1 Q. If -- Does that show siltstones?

2 A. It doesn't, this is just a very quick schematic
3 of clays and sands. This would go along with that clay-
4 sand ratio I was talking about.

5 Q. And you show four -- or you depict four layers of
6 kind of brown. That would be the clay? Is that meant to
7 depict the clay?

8 A. The flat lines are meant to depict the clay.

9 Q. Okay, and then the white is what?

10 A. The lighter are the -- those would be the sand
11 lenses, the dots would represent the sand lenses. And
12 there would be -- there would be siltstones probably at
13 that boundary between the clays and the sands. It would
14 grade from clay to siltstone to sand, and I just show clays
15 and sands.

16 MR. DOMENICI: Could I have one minute?

17 MR. APODACA: Sure.

18 (Off the record)

19 Q. (By Mr. Domenici) Mr. Bonner, in looking at
20 Exhibit 8, in the white section with the real faint dots --

21 A. Uh-huh.

22 Q. -- you are not stating that those would not
23 provide some barrier, are you?

24 A. The dots?

25 Q. Yes, the dots and the white -- the sands and the

1 siltstones. Those would also provide a barrier to
2 migration?

3 A. This is a -- This is a low-energy environment.
4 These are not real high-permeability sands. But they --
5 the sands themselves will -- fluid will move through it,
6 and the silts will provide some sort of retardation of
7 movement.

8 Q. And the clays, I think you've already testified,
9 those will retard movement?

10 A. Yes.

11 Q. And you've colored -- in your diagram you've
12 colored the bottom of the lower Dockum red, and the upper
13 part is kind of brown. Are you trying to indicate some
14 difference in the --

15 A. Just indicate the difference between the lower
16 and the upper. If you looked at the character of the
17 clays, they're probably very similar.

18 MR. DOMENICI: That's all I have.

19 EXAMINER JONES: Ms. MacQuesten?

20 MS. MacQUESTEN: No questions.

21 EXAMINER JONES: Mr. Feldewert?

22 MR. FELDEWERT: I have a couple.

23 REDIRECT EXAMINATION

24 BY MR. FELDEWERT:

25 Q. Mr. Bonner, you referenced -- or I'm sorry, not

1 he -- Mr. Domenici referenced a groundwater exemption that
2 exists under the NMED permit for Triassic Park?

3 A. Yes, yes.

4 MR. DOMENICI: Groundwater waiver.

5 MR. FELDEWERT: Groundwater waiver, thanks.

6 Q. (By Mr. Feldewert) What is -- Is there a liner
7 system required at Triassic Park?

8 A. Yes, there was.

9 Q. And what type of liner system is required at
10 Triassic Park?

11 A. I believe it had a dual liner with a water-leak-
12 detection -- leak-detection system.

13 Q. So they've got a double liner with a --

14 MR. DOMENICI: I'm going to object to this.

15 Q. (By Mr. Feldewert) -- leak detection system?

16 MR. DOMENICI: What relevancy is this? And I
17 don't think it's in his expertise. He testified that the
18 Dockum was protected, the lower Dockum was protected.

19 MR. APODACA: Overruled.

20 Q. (By Mr. Feldewert) Isn't -- So isn't the
21 groundwater exemption that was issued by the NMED based
22 first on the heavy clays on which that park sits, and then
23 second on the double liner with the leak-detection system?

24 A. I'm sure they looked at both those components.

25 Q. Okay. And I want to make sure about your

1 testimony here. You're not saying that there are not clays
2 underlying this landfarm facility?

3 A. I am not.

4 Q. Okay, you're just -- what your testimony is, is
5 that those clays are discontinuous?

6 A. My testimony is that they're discontinuous and
7 difficult to predict.

8 Q. And so is it your testimony, then, that at this
9 particular landfarm site, based on what we know today, that
10 there are no natural impermeable barriers between the
11 landfarming operation and that perched water?

12 A. I'm saying it would take a lot more work to be
13 able to predict that.

14 Q. And while these sands and silts and
15 sandstones that exist, they provide some retardation of the
16 movement of contaminants downward -- you testified to that,
17 correct?

18 A. The siltstones would certainly, yes.

19 Q. But what we have to worry about, what the
20 Division has to worry about --

21 MR. APODACA: Can you hold on a little bit? Let
22 the court reporter catch --

23 COURT REPORTER: I'm okay.

24 MR. APODACA: All right, please proceed.

25 Q. (By Mr. Feldewert) But what we have to worry

1 about and what the Division has to worry about is the long-
2 term picture, right?

3 A. Correct.

4 Q. I mean, this is -- as Dr. Neeper said yesterday,
5 these landfills are legacies to our children and our
6 grandchildren, are they not?

7 A. They are long-term.

8 Q. So as a geologist, when you look at this proposed
9 site and you come to the conclusion that there is no
10 natural impermeable barrier to protect that perched water,
11 you're looking at it from a long-term perspective?

12 A. That's correct.

13 MR. FELDEWERT: That's all I have.

14 EXAMINER JONES: I've got some questions.

15 EXAMINATION

16 BY EXAMINER JONES:

17 Q. Mr. Bonner, the -- I guess first of all, the
18 Santa Rosa is not a member of the Chinle; is that right?

19 A. No, no.

20 Q. It's a different age totally?

21 A. It's older, so we --

22 Q. It's the oldest member?

23 A. It's at the base of the lower Dockum, so it's the
24 oldest Triassic, yes.

25 Q. Oldest Triassic, and then you have the lower

1 Dockum --

2 A. The lower Dockum.

3 Q. -- which is a lakebed, you said?

4 A. Lakebed, lacustrine sediments.

5 Q. Those lakes were huge lakes --

6 A. That's correct.

7 Q. -- gigantic lakes?

8 A. Yeah, yes.

9 Q. What kind of clays is in the lower Dockum?

10 A. The type of clay, whether it's a montmorillonite?

11 Q. Yes.

12 A. I think there's some montmoril- -- I would say
13 probably primarily montmorillonite clays.

14 Q. What is the saturation in the montmorillonite
15 clays in the lower Dockum, water saturation?

16 A. I would have to go to some literature to find
17 that out.

18 Q. Okay, what about the -- as you go from the lower
19 Dockum to the upper Dockum, is there an unconformity there,
20 totally different environment that generated --

21 A. It's not mapped as an unconformity, so it's a
22 change from lakebed to fluvial, but it is not necessarily
23 mapped as an unconformity.

24 Q. But it's a gradational change?

25 A. Yes.

1 Q. So it happened over millions of years, the
2 change?

3 A. It happened over some time. Now, when we did
4 some detailed work in the Triassic Park, we did some
5 structure contour on top of that, and so there is -- there
6 appears to be a little bit of surface like this on top of
7 the lower Dockum. There may have been a little hiatus in
8 there. It is not mapped as an unconformity.

9 Q. A little bit of erosion between the two?

10 A. Yeah.

11 Q. What kind of clays are in the upper Dockum?

12 A. Mineralogically, we didn't take any samples like
13 that. We did -- we took geotechnical samples to find out,
14 you know, permeabilities. And so we have geotechnical
15 results that showed that the upper Dockum clays or the
16 Chinle clays were in the area of 10^{-6} , 10^{-7} for
17 permeability, so very, very tight clays. But we did not
18 get any mineralogical evaluations.

19 Q. How did you take those samples?

20 A. We did it with a hollow-stem augur and taking
21 split-spoon samples.

22 Q. Okay, the permeability -- were they air
23 permeabilities you measured?

24 A. No, then we took them back to a lab, and they did
25 a falling-head permeability on those.

1 Q. Okay, I'm not familiar with that, but can you
2 tell me the ratio of the vertical to the horizontal
3 permeabilities in those clays? If you did the vertical
4 augurs, you do have vertical --

5 A. Uh-huh.

6 Q. -- you know what the vertical direction was.

7 A. I would want to confirm with -- or confer with
8 the geotechnical engineer to find out. We -- I think we're
9 talking vertical permeabilities on a falling-head
10 permeability. I don't know that we did any horizontal --

11 Q. Okay.

12 A. -- I think everything we took was vertical
13 permeabilities.

14 Q. Okay. But are you -- The upper Dockum, is it
15 somewhat layered?

16 A. Yes, it is. Well, it's layered as shown in that
17 cartoon --

18 Q. Okay.

19 A. -- it is layered with interbedded sands, and so
20 there was a -- meandering channel systems going all over a
21 clay-rich environment.

22 Q. So if it was layered, the vertical permeability
23 through those layers would be a little less than the
24 horizontal permeability, wouldn't that be correct?

25 A. That's correct.

1 Q. What about the alluvium at this site that we're
2 looking at here today?

3 A. Okay.

4 Q. What's the effect you think it has on the
5 placement of a landfill at this site?

6 A. The alluvium was totally unsaturated. It sounds
7 like the alluvium is going to be excavated from any kind of
8 a cell, and I'm sure there will be protection of any kind
9 of movement. There'll have to be some ditches and things
10 like that through it, but...

11 Q. So the alluvium is basically part of the same
12 soil --

13 A. No --

14 Q. -- it's just re-worked?

15 A. -- the alluvium is recent material. The alluvium
16 is both dune sands and then detritus that has come off the
17 cap, and so there are chunks of -- there are chunks of
18 petrified wood and things like this, pieces of granite that
19 have eroded off the Ogallala and been mixed with a lot of
20 dune sands. And so it's an erosional feature.

21 Q. Okay, is this -- Is it your understanding, is
22 this landfill going to penetrate below the alluvium into
23 the upper Dockum?

24 A. They said they may go down 20 feet below grade.
25 The lithologies I just looked at are -- show 30 feet of

1 alluvium, so they --

2 Q. In which wells? Which wells was that? All of
3 those wells that measured through that site?

4 A. I did not see the -- I did not look at the recent
5 monitoring wells. But I would say, looking at PB-1 and
6 PB-26, looking at these lithologies, I had alluvial
7 sediments going down to approximately 30 feet. So that
8 would mean they would be excavating alluvial material.

9 Q. So what happens when the big rains come that we
10 -- if we ever get big rains in this country, what's going
11 to happen to that facility? What happens to those salts?
12 Were they going to go down into that upper Dockum? Do you
13 think they're more likely to go into the upper Dockum or
14 in --

15 A. I think they probably --

16 Q. -- horizontally into the alluvium?

17 A. I think probably laterally. Again, another
18 reason for having some engineered barriers.

19 Q. Barriers where? Underneath, around?

20 A. To line the cell. A lining of the cell is --
21 When I'm talking engineered barriers, I'm talking lining of
22 the cell. So that would be another very good reason to
23 line these cells.

24 Q. But geologically, just the cells only, not around
25 the whole facility?

1 A. No, no.

2 Q. Okay.

3 A. Discretely, each disposal cell.

4 Q. Okay. I hate to belabor a point, but this
5 business of perched water, you said it means there's
6 unsaturated material below --

7 A. That's correct.

8 Q. -- the water?

9 What kind of material is that?

10 A. Both silts, clays and sands.

11 Q. So you have unsaturated clays?

12 A. We have seen unsaturated clays and unsaturated
13 sands below some of these perched zones.

14 Q. Are you familiar with capillary pressures in
15 clays or in siltstones? Do you deal with that in your
16 expertise as a hydrogeologist?

17 A. I don't deal with that as a hydrologist, no.

18 Q. Okay. What formation -- what -- was it -- I
19 think Dr. Mansker told us yesterday that the upper Dockum
20 was laid down in a freshwater -- I want to say deltaic --
21 not a deltaic but a channel sand, freshwater environment.

22 A. Correct.

23 Q. So those were fresh waters that originally laid
24 the upper Dockum?

25 A. That's right.

1 Q. So how did these -- perched water become salty?

2 A. Percolation, millions of years later, evidently,
3 must have picked up some evaporitic minerals that were
4 present in the Triassic.

5 Q. Were there ever other-age formations above this
6 here that were eroded off, Jurassic or --

7 A. Yes, yes, it would have -- you would have had
8 more of a section at one time that was removed and then
9 replaced by the Ogallala. So there have been -- There's
10 been quite a bit of geologic section on top of this at one
11 time.

12 Q. And that could have been saltwater environment?

13 A. It would be things introduced into those
14 formations at that time.

15 Q. All these drill holes, they were plugged with
16 bentonite; is that right?

17 A. There was a bentonite-grout mixture that went
18 into every hole that was used for this evaluation.

19 Q. Okay. And to put in a valid monitor well, what
20 do you recommend as far as the casing? Is the well drilled
21 down to any kind of a first decent sand, or silt, and then
22 cased above that and left open-hole in that silt, to look
23 for waters coming in? It's not looking for waters coming
24 in up and down the hole, is it?

25 A. No, you would target the area you thought your

1 saturation was in, and then you would complete your
2 monitoring well through that section. You would put some
3 perforated pipe, just like they did.

4 Q. Okay.

5 A. They would sand-pack it, they would seal it again
6 like they did and grout the top surface, so you know that
7 whatever your -- coming into that monitoring well is coming
8 in laterally through the zone that you recognize --

9 Q. Okay.

10 A. -- that you've targeted.

11 Q. In your opinion as a geologist, is there enough
12 monitor wells installed here?

13 A. I don't know what the groundwater gradient is,
14 and in my experience, my later experience with municipal
15 landfills, it's traditional to have an upgradient and at
16 least a couple downgradient. I mean, you have to have an
17 upgradient to find out what the background values are, and
18 then you have some downgradient to see if you'd ever have
19 any contamination entering those things. And so it's
20 necessary to have up- and downgradient. And I don't know
21 if that information exists at this point to establish up-
22 and downgradient.

23 Q. So if you were designing the monitor wells at
24 this site, where would you put them and how many would you
25 put?

1 A. The first thing I would do is try to understand
2 the groundwater gradient, the groundwater flow direction,
3 is there a groundwater flow direction? And that -- I think
4 Dr. Mansker indicated that maybe there is not. I think you
5 might have to do some work to find out if there is -- in
6 fact, that water is moving. So is there a gradient? And
7 then after you have determined that gradient I think you
8 could establish upgradient and downgradient wells.

9 Q. But if there's -- if this is perched water, it's
10 isolated, right? So there is no -- it's very slow, if any,
11 movement laterally?

12 A. That's right, that's right. That may present
13 some real difficulties for this.

14 Q. Okay. The yield of the wells that you saw
15 drilled here when the -- Did you watch the pump tests, or
16 you just read the report on the pump tests?

17 A. I read the report on those.

18 Q. But you did the mudlogging of these wells, you're
19 the one that wrote down the sample analysis?

20 A. Not of the monitoring wells. That was Dr.
21 Mansker.

22 Q. Okay. So at the wells that you saw drilled,
23 there was no pump test?

24 A. They were never completed as wells. They were
25 borings.

1 EXAMINER JONES: Okay. Okay, that's all my
2 questions.

3 EXAMINATION

4 BY MR. APODACA:

5 Q. Mr. Bonner, you testified on direct, I recall,
6 that as you move from a landfarm facility to a disposal
7 facility, you need to have an engineered barrier?

8 A. Yes.

9 Q. Now, if not all the cells were going to be used
10 for land -- or for disposal, then the engineering barrier
11 only would have to be placed in those cells that would be
12 used for the disposal?

13 A. I think that would be reasonable.

14 Q. And I think in response to a question from the
15 Hearing Examiner you said, when you used the term
16 engineered barrier, you meant lining.

17 A. Yes.

18 Q. So what in your professional opinion would be
19 required in terms of lining these individual cells to
20 protect the site?

21 A. I believe that's going to be covered with our
22 geotechnical engineer. He will probably address that
23 issue, and that's how we anticipate answering that
24 question. So --

25 Q. Okay, what -- I'm sorry, I didn't mean to cut you

1 off.

2 A. Well, Keith Gordon will talk about -- he has
3 designed landfill liners all over the country, and I think
4 he will probably talk about that.

5 Q. But let me at least understand this from your
6 testimony. If lining was placed in those cells where land
7 -- or disposal -- where the landfill operation will
8 occur --

9 A. That's correct.

10 Q. -- that would be sufficient to address all your
11 concerns about possible hazards to groundwater or the
12 perched water at this site?

13 A. Yeah, we -- yeah, I am not recommending
14 engineered barriers underneath the landfarm operation where
15 they --

16 Q. Just the landfill?

17 A. That's right, I'm talking about the change going
18 from landfarm to landfill.

19 MR. APODACA: Thank you, Mr. Bonner.

20 MR. FELDEWERT: I have two follow-up -- I think
21 two follow-up questions.

22 FURTHER EXAMINATION

23 BY MR. FELDEWERT:

24 Q. The Examiner asked you about the ability of these
25 existing monitor wells to safeguard this -- or at least

1 monitor the perched water that they encounter. Do you know
2 the depth of the perched water that was encountered in each
3 of these two recent wells?

4 A. In reading the conclusions, it seems like it was
5 122 and the other was 130, in that neighborhood, 122, 133.

6 Q. Okay, that -- so we're talking about eight to 10
7 foot difference in depth?

8 A. That's right.

9 Q. What does that tell you about the ability of
10 those monitor wells to monitor the perched water that
11 exists under this facility on a facility-wide basis?

12 A. I would have to look at the elevations of those
13 wells. The eight foot is not necessarily a gradient. That
14 eight feet could very well have been accounted for in
15 topography, in which case you're looking at a flat water
16 table. So I would to have to look at the elevations of the
17 wells and so forth to say that.

18 Q. Do you have enough information to ascertain
19 whether those two monitor wells that exist out there now
20 could adequately monitor the perched water that exists
21 throughout the scope of these landfarm -- throughout the
22 scope of this landfarm facility?

23 A. The entire scope of the --

24 Q. Let me be more specific. You've seen a map where
25 they have various cells of their landfarm operations?

1 A. Correct.

2 Q. Okay. With the few monitor wells that they
3 drilled, knowing what you know now, would they be able to
4 monitor any perched water that exists under all of these
5 proposed cells?

6 A. The way we would evaluate a monitoring system
7 would be to go outside the -- use the entire facility, not
8 individual cells. So I think you would probably require
9 some more groundwater monitoring wells.

10 MR. FELDEWERT: Okay, that's all.

11 EXAMINER JONES: Mr. Domenici?

12 MR. DOMENICI: Nothing further?

13 EXAMINER JONES: Ms. MacQuesten?

14 MS. MacQUESTEN: No questions.

15 EXAMINER JONES: Okay, that's -- Thank you very
16 much, Mr. Bonner.

17 THE WITNESS: Thank you.

18 EXAMINER JONES: And let's break for lunch and
19 come back at one o'clock. Off the record.

20 (Thereupon, noon recess was taken at 11:52 a.m.)

21 (The following proceedings had at 1:10 p.m.)

22 EXAMINER JONES: Okay, let's go back on the
23 record.

24 And first of all, I forgot to mention this
25 morning, we got another one of these comment letters. This

1 one is from Armstrong Energy Corporation, it was received
2 on May the 23rd. I'm just going to add it to this list of
3 all of the others, and I'll --

4 MR. DOMENICI: Mr. Hearing Examiner, I have
5 another letter like that, since you're doing that kind of
6 stuff.

7 EXAMINER JONES: That one wasn't sent here?

8 MR. DOMENICI: It's addressed here, but I don't
9 know if it's in your package. There is a copy that we
10 have, if you want to look at it. Maybe it's in the
11 package.

12 EXAMINER JONES: I don't think so. This -- so
13 you want an exhibit --

14 MR. DOMENICI: I'd like to just make it part of
15 the record, somehow.

16 MR. APODACA: I think if we make it part of the
17 record.

18 EXAMINER JONES: Part of the record?

19 MR. APODACA: Yeah.

20 EXAMINER JONES: Okay, we'll just make it part of
21 the record like these other letters. For the record, this
22 is from Ricky Pearce. This was received via Gandy Marley,
23 Incorporated, on May the 5th.

24 And let's go back to --

25 MR. FELDEWERT: Was that marked as an exhibit?

1 EXAMINER JONES: No.

2 MR. FELDEWERT: It was just read into the record,
3 okay.

4 EXAMINER JONES: No, just read into the record.
5 Let's go back to Mr. Feldewert and...

6 MR. FELDEWERT: Okay. Thank you, Mr. Examiner.
7 At this time we will call Dr. Mark Turnbough to
8 the stand.

9 (Thereupon, the witness was sworn.)

10 MR. FELDEWERT: Shall we wait or proceed? I
11 notice Ted stepped out.

12 EXAMINER JONES: We'd better not wait, because I
13 don't know how long he's going to be gone.

14 MR. FELDEWERT: Okay, all right.

15 MARK TURNBOUGH,

16 the witness herein, after having been first duly sworn upon
17 his oath, was examined and testified as follows:

18 DIRECT EXAMINATION

19 BY MR. FELDEWERT:

20 Q. Doctor, could you please state your name for the
21 record and where you reside?

22 A. My name is Mark Turnbough, I reside on Rural
23 Route, Meadow, Texas, 79345, Box 104.

24 Q. And who has retained as an expert for this
25 hearing?

1 A. CRI has retained me as an expert in this case.

2 Q. Could you briefly describe your academic
3 credentials?

4 A. I have a PhD in systems engineering and advanced
5 degrees in anthropology and public policy.

6 Q. Now, I'd like you -- Have you done substantial
7 consulting work?

8 A. Yes, sir, I have worked as a consultant for 25
9 years full-time, and then prior to that when I was teaching
10 in colleges and universities I was a consult part-time.

11 Q. Has your résumé been marked as CRI Exhibit 17 in
12 the green notebook?

13 A. A summary of recent experience has been marked as
14 Exhibit 17. I have a résumé if you want to include that in
15 the record.

16 Q. At this point I think we'll just proceed with the
17 summary of your recent experience.

18 Doctor, could you just briefly describe that
19 experience, focusing primarily, if you will, on your
20 activities in south -- in New Mexico?

21 A. In New Mexico I work as a consultant to the
22 United States Department of Energy at the WIPP facility;
23 I'm the senior regulatory advisor for RCRA issues on that
24 project.

25 I also am a contractor to Advanced Technologies

1 and Laboratories, Inc., out of Germantown, Maryland, as an
2 expert to DOE headquarters with regard to issues
3 surrounding RCRA problems associated with Los Alamos
4 National Laboratory. The ATL contract is for nationally
5 recognized expertise in specific content areas, and I'm
6 retained to deal with the consent order and the subsequent
7 cleanup at Los Alamos Laboratories.

8 I negotiated the settlement on the consent order
9 between the National Nuclear Security Administration, DOE's
10 Environmental Management Division, and the New Mexico
11 Environment Department. The University of California was
12 also a party to that. And that consent order has now been
13 put into place, and the work for cleaning up the Lab
14 sitewide is underway.

15 The other primary focus of activity in New Mexico
16 for me is solid waste management facility permitting. I
17 have permitted, I think, 12 separate solid waste facility
18 -- actually they're not separate facilities, they're
19 separate permits. Some of the facilities, there's more
20 than one permit. And that's been over the last 13 years, I
21 guess.

22 In the beginning of that process, I was the
23 interface between EPA Region 6 and the State of New Mexico
24 with regard to EPA's delegation of the RCRA Subtitle D
25 authority to the State of New Mexico, so that the New

1 Mexico Environment Department would have authorization to
2 have jurisdiction over the Subtitle D activities in this
3 state.

4 And then subsequent to that I did a good deal of
5 permitting in this state, mainly in the southern part of
6 the state, but some up in the central part.

7 The other things that I've engaged in that are
8 relevant to this discussion, that are not necessarily in
9 New Mexico, is that I worked for Phillips Petroleum in
10 reconciling a number of cleanup issues which were in
11 litigation up in the panhandle of Texas, near the Borger
12 Phillips refinery. I've done quite a bit of work up there,
13 was qualified as a witness in federal court during that
14 process.

15 I worked for Moncrief Oil Company, W.A. Moncrief,
16 in selection and permitting of sulfur disposal facilities
17 for the Lost Cabin Gas Plant in the Wind River Basin of
18 South Central Wyoming, and have stayed engaged with
19 Moncrief Oil as their problems with the amount of sulfur
20 generated by the Lost Cabin Plant increase.

21 That's actually a very extraordinary project.
22 That plant generates 1500 tons a day of molten sulfur, and
23 it's no longer a commodity, it's not marketable because of
24 the quantities of sulfur on the market, so we have to look
25 for a disposal mechanism that would comply with Wyoming

1 regulations and still allow for the recovery of the
2 material if sulfur ever comes back as a viable commodity on
3 the market.

4 Another project that I have ongoing participation
5 in that's lasted quite a while is a monumental cleanup of
6 the Martha oilfield in eastern Kentucky, Johnson and
7 Lawrence Counties. I've been working on that project for
8 nearly seven years, I guess. It's on again, off again.
9 Litigation is sporadic throughout that, and I've been
10 qualified as an expert in that case to deal with the nature
11 and the extent and the expense of the cleanup associated
12 with the Martha field.

13 Q. Doctor, have you been qualified as an expert
14 witness on environmental permitting issues by the New
15 Mexico Environment Department?

16 A. Yes, I have.

17 Q. And have you testified before the New Mexico
18 Environment Department on landfill site suitability issues?

19 A. Yes, I have, I've testified -- I've coordinated
20 the preparation of several applications and testified on
21 significant quantities of content in the applications, but
22 it typically focuses on site suitability, site selection.

23 But beyond that, in many of those activities I
24 was responsible as sort of the project team manager to
25 manage the interdisciplinary teams that assembled the

1 application.

2 The only other project that's probably worth
3 mentioning, since it's kind of in the neighborhood is that
4 I was also the senior regulatory consultant to Waste
5 Control Specialists in the selection, permitting and
6 expansion of the licensure of their facilities in far
7 western Andrews County, Texas. That facility literally
8 sits right on the Texas-New Mexico line, and ironically
9 it's situated in virtually the same kind of geologic
10 setting that the Triassic Park facility is situated in.

11 Q. So you have dealt with waste streams that contain
12 hazardous constituents; is that right?

13 A. I have.

14 Q. Okay, and you've also been involved in waste
15 streams that are accepted at -- normal, everyday landfill?

16 A. That's correct.

17 Q. Now, have you reviewed any -- Have you reviewed
18 the Application that was filed by Gandy Marley in this
19 case?

20 A. Yes, I have.

21 Q. And have you reviewed any other documents in
22 preparation for your testimony today?

23 A. I reviewed the OCD Rule 711, the OCD guidelines
24 for permitting surface management -- surface waste
25 management facilities. I reviewed the Water Quality

1 Control Commission regulations. I reviewed the solid waste
2 management regulations of the New Mexico Environment Depart
3 at 20 NMAC 9.1. I reviewed a guidance document that the
4 Solid Waste Bureau at the New Mexico Environment Department
5 gives to potential applicants as a roadmap to follow the
6 preparation of what they think is a responsive application.

7 I've also taken a look at what the Groundwater
8 Bureau at the New Mexico Environment Department publishes
9 as -- not so much a guidance document, but more of an
10 outline -- an annotated outline that identifies what is
11 necessary to produce a responsive application.

12 And I also took a look at what's called the
13 STRONGER report that the oil and gas associations have
14 periodically updated -- I think Dr. Neeper indicated that
15 he was actually a participant in the -- either the
16 development of that document or the review or the editing
17 of it -- which is a pretty comprehensive review of oil and
18 gas regulations by state, and then some revised
19 recommendations for streamlining those regulatory
20 frameworks.

21 Then there's a -- I don't guess it's recent
22 anymore. Time flies. 2002 seems recent to me, but EPA --
23 especially when you're dealing with EPA, I guess.

24 EPA published in 2002 a kind of a high-level
25 guidance document addressing the decision that they made

1 several years prior to that with regard to the exemption of
2 oil and gas waste and the exploration and production
3 streams and how they made decisions on what was appropriate
4 for the segregation out of these large-volume waste streams
5 that they believe were, in general, less problematic than
6 some of the more traditional RCRA Subtitle C waste streams
7 and why they had made those decisions and what they had
8 recommended in lieu of Subtitle C regulation.

9 I also went back and looked at 40 CFR, Part 258,
10 which is EPA's solid waste management regulation that was
11 put into place in about 1993, and it's that rule that was
12 transferred over to New Mexico in 1993 and 1994 when they
13 received delegation of the authority from EPA Region 6 to
14 carry that program into effect in New Mexico.

15 Q. And have you -- You've been present for the
16 testimony yesterday?

17 A. Yes, I was.

18 Q. And have you -- and you've reviewed -- I think
19 you said you reviewed the Application. Did you also file
20 -- did you also review the other documents that have been
21 filed in connection with this Application by Gandy Marley?

22 A. I have looked at most of the documentation that's
23 been filed either with the Application or between the time
24 the Application was filed and the date of this hearing, and
25 that I've -- I've looked and listened to the content,

1 looked at and listened to the content of the exhibits and
2 the testimony given to supplement that Application.

3 Q. And are you prepared to testify today about the
4 information that's been provided and whether that is
5 suitable for determining whether this site is appropriate
6 for a landfill?

7 A. I'm prepared to testify about the content of the
8 Application from the perspective that I normally have in
9 the development of an application for a solid waste
10 disposal facility permit, and I'm prepared to apply what I
11 consider to be standards of good practice, regulatory
12 guidance, the Rule itself, and the more practical notions
13 of just providing a responsive application in a public
14 process where there's going to be review of that
15 application and ultimately the decision by the agency to
16 carry that decision into effect.

17 MR. FELDEWERT: At this time I would offer --

18 THE WITNESS: Let me say one more thing.

19 MR. FELDEWERT: Sure.

20 THE WITNESS: I am not -- I'm not here to testify
21 about the suitability of the site. And part of the reason
22 I'm not is that I'm not able to at this point. And the
23 reason I'm not able to is, I don't have enough information
24 to make that determination. I honestly don't know what my
25 position on the site itself is at this point.

1 MR. FELDEWERT: Okay. In that case, I would
2 offer Dr. Turnbough as an expert witness on environmental
3 planning, permitting and regulatory compliance --

4 EXAMINER JONES: Before you do that, did we --
5 did you get sworn in?

6 THE WITNESS: Yes.

7 EXAMINER JONES: Okay, I'm sorry, go ahead, Mr.
8 Feldewert.

9 MR. FELDEWERT: I'm glad we got that done. I
10 don't want to go through this again.

11 -- as well as --

12 (Laughter)

13 THE WITNESS: That would really -- that would be
14 a pretty good set of facts.

15 (Laughter)

16 MR. FELDEWERT: -- as well as matters that should
17 be examined, if we're going to ascertain whether a waste
18 disposal site is suitable for this type of waste stream.

19 EXAMINER JONES: So say that again.
20 Permitting --

21 MR. FELDEWERT: -- planning --

22 EXAMINER JONES: Planning.

23 MR. FELDEWERT: Environmental planning,
24 permitting and regulatory compliance, as well as the type
25 of information that should be available and examined prior

1 to siting a waste disposal facility.

2 EXAMINER JONES: Objections?

3 MR. DOMENICI: I'd like to voir dire.

4 MR. APODACA: Please proceed.

5 VOIR DIRE EXAMINATION

6 BY MR. DOMENICI:

7 Q. What OCD waste disposal facilities have you been
8 involved in permitting?

9 A. I've been involved with one OCD disposal
10 facility.

11 Q. Which one?

12 A. That was CRI.

13 Q. And what was your involvement in that one?

14 A. There was an issue that came up between CRI and
15 Lea Land. Lea Land was a RCRA Subtitle D facility that was
16 permitted by the New Mexico Environment Department. CRI at
17 the time was permitted as an OCD disposal facility.

18 And what had happened is that Lea Land had
19 applied to NMED for a permit modification to allow them to
20 receive certain E-and-P-related waste as subtitle D wastes.
21 They believed that they could identify waste streams that
22 came from the E-and-P streams that were not hazardous and
23 that they could take in their facility at Lea Land.

24 And CRI opposed that permit modification at Lea
25 Land, saying that if they wanted to receive solid waste

1 form the E-and-P streams, they should go to OCD and get a
2 permit from OCD for that separate specific function.

3 I was an expert for CRI, and we prevailed on the
4 permit-modification request, which was not granted;
5 conditions were placed on their modification that required
6 them to take solid waste only that could originate from the
7 oil and gas community, but it was actually domestic waste.
8 And then ultimately Lea Land applied for and received a
9 solid waste disposal facility permit from OCD.

10 Q. So that entire regulatory process was through
11 NMED?

12 A. That's correct.

13 Q. So is it accurate you never participated in an
14 OCD permitting process?

15 A. That's exactly right.

16 Q. And have you reviewed the OCD permitting process
17 that is applied to any other similar waste facilities as
18 this one?

19 A. You mean with regard to the other permitted
20 facilities?

21 Q. Yes.

22 A. I have not looked at those applications. I read
23 711 and I read the guidance.

24 Q. And in addition to the applications you haven't
25 read the hearing transcripts?

1 A. I have not.

2 Q. You haven't read the permits that were issued?

3 A. I have not.

4 Q. You haven't reviewed the exhibits that were
5 entered?

6 A. On all of those other cases?

7 Q. On any of those other cases?

8 A. No.

9 Q. Have you reviewed how OCD staff participates as a
10 regular practice in OCD permit hearings?

11 A. I have never been exposed to the OCD process
12 until participating in this process.

13 Q. Have you been involved in the OCD rulemaking --

14 A. No, I have not.

15 Q. -- process?

16 So as I understand your testimony, you're not
17 going to provide any expert testimony as to how OCD handles
18 permits, correct?

19 A. I don't know that I'm going to testify about how
20 OCD does or should conduct its historic permit process.
21 I'm not here to evaluate they way they've done business.
22 What I'm here to do is to provide expertise on this
23 particular Application with regard to its completeness and
24 with regard to its adequacy and its -- literally, its
25 reviewability.

1 Q. Without regard to how OCD requirements apply to
2 that?

3 A. I think that it's with regard to requirements
4 that are fairly clearly stated in the Rule and the
5 requirements that are stated fairly clearly in the
6 guidelines.

7 Now, with regard to guidelines, something that I
8 did not mention when I was being qualified to testify here
9 is that I have written a set of guidelines for the State
10 Land Office, that are in draft form, that literally speak
11 to the protection of surface resources with regard to
12 E-and-P activities.

13 E-and-P activities are pretty generic. Drilling
14 for oil and gas is a pretty well-defined technology. Those
15 guidelines are in the process of being reviewed and
16 developed for publication by the State Land Office, and so
17 I have that perspective in addition to what we're talking
18 about in general.

19 Q. You have no experience or information as to how
20 OCD applies its guidelines or regulations on other permits,
21 correct?

22 A. Based on what I can tell, given that the lack of
23 written material on the process -- my experience is
24 basically in this particular exercise of looking at when
25 the application was submitted, when it was public-noticed

1 and when this hearing was presented, and the way this
2 hearing has dealt with information that's in that
3 Application and the supplements to that.

4 Q. And you're proposing, as I understand it, to
5 comment on that procedure based on your expertise in
6 Subtitle D, Subtitle C and other experience you described,
7 correct?

8 A. Because this is a solid waste disposal
9 Application, and because I have a fairly extensive
10 experience in solid waste disposal permitting, I think it
11 is roughly analogous, and I don't think that the
12 requirements that come up through good practice, the
13 requirements that were basically deliberated on and arrived
14 at through EPA's process in developing 40 CFR, Part 258 --
15 I don't think that you're talking about a radically
16 different kind of process, because the purpose is the same,
17 and that's to safely isolate solid wastes from the
18 environment and protect the public health.

19 Q. And the regulatory structure is different,
20 correct?

21 A. Yes, it is.

22 Q. The statutory is different --

23 A. Yes, it is.

24 Q. --is that correct?

25 MR. DOMENICI: I move to exclude Mr. Turnbough's

1 testimony on anything other than his experience in OCD, and
2 I have a motion *in limine* I'd like to present. And I don't
3 agree he's qualified as an expert. He knows nothing about
4 OCD.

5 MR. APODACA: Before we present that motion, we'd
6 like to hear from Mr. Feldewert.

7 MR. FELDEWERT: Mr. Examiner, Rule 711.B.(1).(m)
8 sets forth the information that the Division -- it sets
9 forth the information that is required to be included
10 within an application and, by virtue of that fact,
11 essentially establishes the types of information the
12 Division is to consider in reviewing these types of
13 applications.

14 And (m), which is the last provision, says, "Such
15 other information as is necessary to demonstrate that the
16 operation of the facility will not adversely impact public
17 health or the environment..." and then it goes on to say,
18 "...and that the facility will be in compliance with OCD
19 rules and orders."

20 So only part of what you are to consider is
21 whether it's going to be in compliance with OCD Rules and
22 orders. The other part is "other information as is
23 necessary to demonstrate that the operation of the facility
24 will not adversely impact public health [and] the
25 environment..."

1 That is what Dr. Turnbough is here to talk about
2 today. It's a very important part of this application
3 process.

4 Mr. Martin testified that the structure within
5 the OCD is not quite as rigid as it is in the NMED. And
6 one of the reasons, I would submit to you, it's not quite
7 so rigid is, they have this catch-all phrase. It allows
8 them to look beyond their own rules, beyond their own
9 regulations, and consider issues, to consider facts,
10 consider the avenues of inquiry that will bear upon whether
11 a facility like this which is accepting hazardous materials
12 can be -- has -- is going to affect the public health and
13 environment.

14 What should you look at, what should you
15 consider? Okay? What types of information should you take
16 into account?

17 The other aspect that I think is important is
18 Rule 712, is a rule within the Division that authorizes oil
19 and wastes, certain oil and gas wastes, to be disposed of.
20 And I'm looking at paragraph A, a solid waste facility,
21 that is, an NMED landfill.

22 And what the Division does is, there are certain
23 types of oil and gas wastes that they automatically will
24 let go into a landfill. There's other types of oil and gas
25 waste that have to be specially studied, they have to be

1 studied, they have to be examined on a case-by-case basis
2 before they will go into a landfill, demonstrating two
3 things:

4 One, that the waste we're dealing here today is
5 more dangerous than what goes into a landfill;

6 And secondly, that the Division has recognized
7 that the disposal of these wastes is similar to what you do
8 with respect to the disposal of wastes that go in the
9 landfills.

10 So I would submit that if you're going to look at
11 other information and take into account what you should be
12 considering, that you have to, as Mr. Martin -- well, you
13 have to look at some -- what the NMED requires, what the
14 EPA has discussed. Mr. Martin testified those are good
15 guidelines for filling in this gap, this catch-all phrase
16 of Rule 711.(m) -- Rule 711.B.(1).(m). That's why Dr.
17 Turnbough is here today, and I think you ought to hear what
18 he has to say.

19 MR. APODACA: Mr. Domenici, CRI is proposing to
20 have Dr. Turnbough qualified as an expert in permitting,
21 planning and regulatory compliance. During voir dire he
22 testified that he is not, with the exception of 711 and
23 within the guidelines, familiar with OCD's practices.

24 If he were to testify generally on, as he
25 indicated, good management practices, what EPA or NMED

1 specifically would require, but not testify with respect to
2 OCD permitting requirements, because clearly he's indicated
3 that his expertise is limited just to reviewing the Rule,
4 would that address your concerns?

5 MR. DOMENICI: That wouldn't limit -- that --
6 Basically, I think that's all he is an expert on, and I
7 think that testimony is totally irrelevant. So yes, it
8 would address my concerns that he cannot provide opinions
9 that he's not qualified to on OCD -- satisfaction of OCD
10 requirements.

11 And then I would ask you and the Hearing Officer
12 to be consistent as far as the rulings you've already made,
13 indicating you're not going to look at other sites, which
14 is exactly what he's proposing to do.

15 And looking -- It's even broader than other
16 sites. Under these rules it's other procedures, totally
17 different from these rules.

18 It also overcomes the Oil and Gas Act and the OCD
19 regulations. You're allowing him to introduce evidence
20 that is contradictory to the actual regulatory
21 requirements, which cannot possibly be relevant to this
22 hearing.

23 MR. APODACA: How can we determine that they're
24 contradictory if we haven't heard that testimony?

25 MR. DOMENICI: I would ask you, then, if you're

1 going to let him testify on this broad catch-all, to
2 reconsider your decision that we can't look at the three
3 other permitted sites that have gone through the OCD
4 procedure.

5 MR. APODACA: Well, I don't believe that what
6 he's going to testify on has anything to do with what
7 involves, for example, CRI's site --

8 MR. DOMENICI: Well --

9 MR. APODACA: -- I think he's going to be
10 testifying with regard to general good management
11 practices. So I don't see the connection with respect to
12 other sites. Now, if he starts testifying about other
13 sites, other than the Triassic site, then I think that
14 would fall within the ambit of our original ruling. But
15 I'm not quite clear why I think -- or why I understand that
16 you are contending that --

17 MR. DOMENICI: Well, I think --

18 MR. APODACA: -- this is --

19 MR. DOMENICI: -- that ruling, because there's
20 exhibits in this book that are on many other sites already,
21 so I'm glad to have that ruling from you, and I hope that
22 applies to all the other witnesses that are subsequent to
23 Mr. Turnbough, and then I'd like to address specifically
24 why he is entitled to talk about regulations other than
25 what my client has to comply with. And I don't think

1 that's relevant, I don't think it leads to admissible
2 evidence. So if you want to go through it --

3 MR. APODACA: Well, let me confer with the
4 Hearing Examiner.

5 (Off the record)

6 EXAMINER JONES: Ms. MacQuesten, do you have an
7 input into this?

8 MS. MacQUESTEN: Yes, thank you. I think this
9 directly affects the OCD, so I appreciate having the
10 opportunity to say something.

11 Mr. Turnbough has said that he's not here to
12 testify regarding the suitability of this site, and he's
13 not here to testify on the OCD Rules. Those are the issues
14 that this case is about. As I understand it, he would be
15 testifying concerning other regulatory systems that do not
16 apply. We know that this is not a RCRA hazardous waste
17 site, we know that this is not a solid-waste site to be
18 permitted under ED.

19 Mr. Feldewert has tried to bootstrap in other
20 agencies' policies and procedures under 711.B.(1).(m),
21 which talks about the willingness of the OCD to look at
22 evidence that the site will not adversely impact public
23 health and the environment. That is not a way to bootstrap
24 in every other regulatory requirement imposed by every
25 other regulatory agency; that is a call for scientific

1 evidence on the impact of this site. And I don't see Mr.
2 Turnbough's expertise being in that area. He is here to
3 make comparisons between other agencies' rules and OCD's
4 Rules, without fully understanding OCD's Rules. And
5 frankly we're here to decide whether this permit is
6 acceptable under OCD Rules.

7 I agree with Mr. Domenici that to be consistent
8 with this Hearing Examiner's prior rulings in this case,
9 this evidence should be excluded. Mr. Domenici has been
10 precluded from presenting evidence how other sites are
11 permitted under OCD rules. Now you're proposing to open up
12 this hearing to how other sites are permitted under other
13 rules. Now we're -- We're precluded from talking about
14 OCD's own Rules, but now we're going into how they would be
15 done under the EPA, how they would be done under ED, and
16 that is entirely irrelevant.

17 MR. APODACA: Mr. Feldewert, is your witness
18 going to give any testimony with respect to OCD Rule 711
19 and the guidelines?

20 MR. FELDEWERT: He is going to -- Mr. -- Dr.
21 Turnbough is going to -- he has reviewed 711, he has
22 reviewed the guidelines. What he's going to testify to
23 today is what other information -- Rule 711.(m) is -- says,
24 "Such other information as is necessary to demonstrate that
25 the operation of the facility..."

1 Now, there's no -- other than -- there's nothing
2 in the Division's Rule that defines what they're talking
3 about here. It is a catch-all phrase -- okay? -- to allow
4 consideration in offering of evidence about what other
5 information the Division could and should look at with
6 respect to determining whether this facility will not
7 adversely impact public health and environment.

8 I don't know -- If we don't allow this type of
9 testimony, what does this catch-all phrase mean? It would
10 be rendered meaningless. This is exactly the type of
11 testimony that was envisioned when they passed this Rule.
12 They're not going to limit the analysis to just what is set
13 forth in (a) through (l). They have allowed the analysis
14 to include other information. And he is here to testify
15 about what other good management practices exist and what
16 other good management -- what other good regulatory tools
17 exist to ensure that the facility will not adversely affect
18 public health and the environment.

19 And I -- and also that there is testimony in the
20 record from the Division's own staff that the -- what the
21 NMED does and what the EPA -- well, I don't know about the
22 EPA, but certainly what the NMED does is considered by the
23 Division as a good source of how to comply with this
24 subparagraph (m).

25 MR. APODACA: Mr. Domenici, what is your motion

1 *in limine?* What will it address?

2 MR. DOMENICI: It addresses the statement in
3 their prehearing filing that indicated that they were
4 planning to talk -- to indicate that the OCD regulations
5 are insufficient to permit this kind of facility and that
6 this facility should be permitted similar to an NMED -- or
7 through a process similar to the NMED solid waste permit
8 process, which is the way I've seen Mr. Turnbough's
9 testimony described, as best I could see it.

10 And so I made a motion saying the Solid Waste Act
11 on its face -- the State Solid Waste Act, not to mention
12 RCRA -- exempts oil and gas waste.

13 So they then try to bring it back in under a
14 statute that has already exempted it, which is exactly what
15 they're proposing. That totally voids the legislative
16 purpose of the Solid Waste Act and the RCRA exemption.

17 MR. APODACA: The Hearing Examiner and I need to
18 confer for a moment.

19 (Off the record)

20 MR. APODACA: All right, this is how we'll
21 proceed.

22 First of all, we'd like to note that the filing
23 by CRI in this matter indicated that Mr. Turnbough would be
24 a regulatory and environmental compliance specialist. It
25 didn't indicate anything about permitting and planning.

1 Second of all, there were rulings yesterday
2 regarding CRI's attempts to bring in testimony with respect
3 to NMED compliance, and we did not allow that testimony.
4 To now have a witness present testimony on whether or not
5 OCD's Rules and guidelines are consistent or not consistent
6 with respect to NMED guidelines and rules and EPA rules and
7 regulations would be inconsistent with that ruling.

8 Therefore the Hearing Examiner has determined
9 that Mr. Turnbough's scope of testimony will be strictly
10 limited to whether or not the Application complies with the
11 OCD Rules and guidelines. We're not going to open this
12 hearing up to an examination of the adequacy or inadequacy
13 of the OCD Rules and guidelines; this is not the
14 appropriate forum to do that in.

15 So if your witness, Mr. Feldewert, can testify on
16 whether or not the Application complies with OCD Rules and
17 guidelines, we can hear testimony to that effect. But
18 we're not going to hear testimony with respect to comparing
19 and contrasting Rules and Regulations of OCD with those of
20 other regulatory bodies.

21 And I believe that would address your motion in
22 *limine* --

23 MR. DOMENICI: Well, it --

24 MR. APODACA: -- as well.

25 MR. DOMENICI: -- certainly addresses my motion

1 *in limine*. It doesn't address my concerns that he's not
2 qualified to do what you've now limited him to do. He's
3 already stated he doesn't have the qualifications to deal
4 with the OCD. So since you've limited him to testifying
5 about compliance with the OCD, I don't think he can provide
6 anything useful. He can't provide any opinions on that.

7 MR. APODACA: Mr. Feldewert, why don't you do
8 some additional examination of your witness and see if you
9 can resolve that issue?

10 MR. FELDEWERT: Sure.

11 DIRECT EXAMINATION (Resumed)

12 BY MR. FELDEWERT:

13 Q. Dr. Turnbough, have you reviewed OCD Rule 711, as
14 well as the guidelines that are published for that Rule?

15 A. Yes, I have.

16 Q. Okay. And have you -- in your experience in
17 various regulatory and permitting issues, have you also in
18 those instances -- were you also involved with similar
19 guidelines and regulations?

20 A. I think you'll -- what you'll find is that the
21 OCD 711 requirements for applications are generically very
22 similar to a wide range of other sets of requirements,
23 state by state, state to federal, regulatory frameworks.
24 There are only a certain number of questions you can ask
25 about a site and a certain number of questions you can ask

1 about the operation of a site and a certain number of
2 questions you can ask about the closure of a site. They're
3 just -- they're finite activities that occur within these
4 different contexts.

5 711 does not -- although it's much briefer, it's
6 still -- it takes fairly short statements and it implies to
7 the Applicant that there are certain pieces of information
8 that are needed by OCD to determine whether or not the
9 Applicant is competent to operate the facility, whether or
10 not his site is suitable as a location for a facility, and
11 it helps them make a determination on conditions that might
12 be necessary to supplement the suitability of the site in
13 order to further isolate the waste.

14 Since 1993 when EPA came out with its solid waste
15 management regulations, that generic set of standards has
16 filtered down through not only the RCRA Subtitle C and
17 Subtitle D facilities and jurisdictions within states, but
18 because of guidance and discussion about exemptions of
19 E-and-P waste by EPA for RCRA Subtitle C treatment, for
20 example, they go on and suggest that other state
21 regulations, Subtitle D regulations and other federal
22 regulations, should be sufficient to properly make those
23 decisions.

24 I'm not in a position to tell an agency that what
25 they do is not appropriate. I'm here based on a fairly

1 long and fairly wide background on waste-management issues,
2 especially on the front end, permitting and then ultimately
3 some compliance along the way.

4 To take another set of rules -- OCD 711 is not a
5 very complicated rule, especially with regard to what's
6 required for an application, (a) through (m).

7 I think, based on other applications I've
8 prepared, other applications I've participated in the
9 preparation of, other activities I've engaged in with
10 regard to being a witness in state and federal court and
11 before other agencies and other states -- and I have been
12 qualified as an expert in other states the first time I
13 showed up, because I can read and write the English
14 language and I can interpret the Rule and I can apply my
15 experience to it -- I'm not here to up-end the apple cart
16 with regard to your interpretation of a rule, I'm here to
17 read the Rule, and it says what it means.

18 The guidelines -- I can read -- they say what
19 they mean too. If you take that in the context of waste-
20 disposal issues, I think I can properly applied those.

21 VOIR DIRE EXAMINATION

22 BY MR. APODACA:

23 Q. Dr. Turnbough, have you done any analyses or
24 tests or examinations or reports with respect to the
25 geological characteristics at either the Triassic site or

1 the existing landfarm site?

2 A. What I've done is reviewed -- The answer to your
3 question is, I have not done tests. What I have done is, I
4 have reviewed the document file, and I have asked myself,
5 if I were preparing the Application for GMI, would what is
6 supplied at this point, in my mind, be sufficient to answer
7 the intent of the Rule?

8 If I were standing in their shoes and I were
9 preparing this Application, would I say that what they've
10 done for the closure report, for example, is that, to me,
11 adequate? Does it answer all of the usual questions that
12 are typically asked about how you close a site?

13 Q. What would you base that determination on? Based
14 upon what other regulatory schemes, in your experience,
15 require?

16 A. Inevitably, the experience that you have in other
17 regulatory regimes has some effect on the way you think
18 about it. But what has a bigger effect on it, since I'm
19 typically the one that manages these multi-disciplinary
20 teams that go after applications, is the expertise in each
21 of those disciplinary areas, where individuals are asked to
22 characterize the groundwater regime, for example. Their
23 good practices, their professional requirements, their
24 methodological approach, that's what -- that's what defines
25 what I think is appropriate.

1 In liner design, for example, I don't design the
2 liner, but I work with people and coordinate the activities
3 of people who do design those liners, and they design them
4 for everything from Subtitle C, which is the most
5 stringent, all the way down to some fairly unremarkable
6 designs that are indicated by certain settings.

7 So those are judgment calls you come by over a
8 period of three decades of working in this kind of
9 business.

10 DIRECT EXAMINATION (Resumed)

11 BY MR. FELDEWERT:

12 Q. Dr. Turnbough, how many regulatory frameworks
13 have you worked within?

14 A. I've done work in about 16 states, I suppose.
15 I've worked under Subtitle D frameworks, Subtitle C. Those
16 are almost generically uniform.

17 Some states are a little more stringent than
18 those original, initiating federal regulations. The State
19 of New Mexico, in the Environment Department, for example,
20 in spite of the fact that Subtitle D is a performance-based
21 regulation, has added a couple requirements. They're above
22 and beyond them.

23 In Wyoming there are a couple of interpretations
24 of the way solid waste facilities are permitted that allow
25 the siting of cells much closer to groundwater, and they

1 rely exclusively on the performance standard.

2 In Louisiana -- When we designed and operated
3 cells in south Louisiana, the first thing you became aware
4 of when you approached the site was the sound of water
5 pumps, because we have a lot of water in the ground there.
6 And although the standard was pretty much generically the
7 same as it was for an arid location, as it was -- one that
8 wasn't -- you had different -- you had different
9 circumstances that you had to accommodate.

10 All I'm saying is that a regulatory checklist
11 raises a bunch of questions about what the agency needs to
12 know in order to make an informed decision on permitting a
13 facility and applying conditions to it. And that is no
14 different -- I think that some of the objections that have
15 been raised here with regard to my participation in this
16 are a little parochial in some respects, because they're
17 not that different elsewhere.

18 MR. DOMENICI: I renew my objection --

19 MR. APODACA: Mr. Feldewert --

20 MR. DOMENICI: -- I'd like to raise another
21 argument.

22 MR. APODACA: Before you do that, Mr. Feldewert,
23 Mr. Domenici, after listening to the additional questioning
24 of the witness the Hearing Examiner and I have determined
25 that basically his testimony is going to consist of

1 evaluating not the particular hydrologic or geologic
2 characteristics at this site, but the adequacy of the OCD
3 Rules and guidelines as compared to other regulatory
4 schemes and other regulatory matters, and that's not a
5 matter that we've entertained earlier, and it's not a
6 matter we're going to entertain today.

7 So this witness will not be allowed to testify as
8 an expert on the areas you indicated, and that is our
9 ruling.

10 MR. FELDEWERT: Mr. Examiner, I would then offer
11 Mr. -- Dr. Turnbough as an expert witness on compliance
12 with OCD Rule 711 and guidelines, premised upon his
13 experience in dealing with similar regulatory frameworks in
14 other jurisdictions.

15 I think you will agree with me that Rule 711, as
16 the Division has indicated, is not quite as detailed as
17 other provisions. It's, in terms of the wording, less
18 comprehensive. I don't think they mean to imply that the
19 Rule does not take into account everything that needs to be
20 taken into account in citing this -- these issues, but I
21 think Dr. Turnbough can certainly offer an opinion as to
22 whether the items that have been presented in the
23 Application and in this hearing are sufficient to meet the
24 -- what is required under Rule 711 and the guidelines, by
25 way of information to the Division.

1 MR. APODACA: But Mr. Feldewert, I'm kind of
2 puzzled. I mean, while I'm sure Dr. Turnbough might
3 enlighten us with respect to the types of information that
4 we should possibly consider in future rule changes, how
5 does that get to the heart of this matter as to whether or
6 not this Application meets the requirements under the
7 existing Rule and existing guidelines?

8 MR. FELDEWERT: Well, let me give you an example.

9 Rule 711.(d) -- Rule 711.B.(1).(d) requires "A
10 description of the facility with a diagram indicating
11 location of fences and cattle guards, and detailed
12 construction/installation diagrams of any..." pipes
13 "...liners, dikes, piping, sprayers, and tanks on the
14 facility..."

15 Now, under this -- under -- what does this
16 provision mean? What type of information is responsive to
17 this Application? Rule 711.B.(1).(i) also requires "A
18 closure plan including a cost estimate sufficient to close
19 the facility to protect the public health and the
20 environment..."

21 Now what does that mean? What type of
22 information is normally submitted for -- under a regulatory
23 framework requiring a similar requirement?

24 MR. APODACA: But I believe he's testified he's
25 not familiar with what has been submitted previously, what

1 is submitted routinely, what is approved, what is not
2 approved by OCD. He has no familiarity with OCD matters.
3 So with respect to that testimony, we have reservations --

4 MR. FELDEWERT: I understand, I understand your
5 reser- -- there's no doubt he has not have any -- had --
6 has -- he does not have any exper- --

7 MR. APODACA: Well, it's more than a reservation.
8 If he's not an expert in that area he can't be qualified as
9 an expert witness.

10 MR. FELDEWERT: Well, let me ask you this. That
11 tells me that nobody can come and testify about the --
12 whether you have met these guidelines, unless you have been
13 involved in all of those other proceedings. Now, who's
14 going to meet that test? Nobody. Nobody's going to meet
15 that test. Okay?

16 What he is here to testify to is what -- under
17 these provisions, under Rule 711, under the guidelines --
18 okay? -- based on his experience with other regulatory
19 frameworks, what should the Division be looking at? Okay?

20 And my problem with -- and my problem with your
21 position is that what you were saying is that you -- no one
22 can offer testimony about the types of things that should
23 be considered under this Rule 711 unless you have been
24 someone who has been involved in all of those other
25 proceedings. There has not been that many other

1 proceedings. We can count them on one hand.

2 So I think there is room here -- I think --
3 certainly what you bring up goes to the weight of the
4 testimony. But is it relevant? Yes, it is relevant.

5 MR. APODACA: I'd like to hear from Mr. Domenici
6 and then Ms. MacQuesten.

7 MR. DOMENICI: My concern is, first of all, I
8 think he's stepping into the Hearing Examiner's seat and
9 saying he wants to listen to all the evidence and say --
10 give his opinion of it, with -- with essentially an un- --
11 virtually unlimited and undefined world of other evidence
12 that he is considering, other proceedings, that we're not
13 aware of and we're not able to cross-examine him on.

14 So this really fundamentally challenges our due-
15 process rights, to know what standards are going to be
16 applied to my client, to have a witness come in and say, I
17 know nothing about this procedure. And he didn't have to
18 be involved in the other proceedings, all he would have to
19 do is review them. He knows nothing about them. And the
20 fact that there's -- the idea that there's only a few other
21 proceedings is not really accurate. This procedural
22 mechanism is used by the OCD for every permit, whether it's
23 disposal or production, and that includes waste fills, land
24 -- waste facilities, landfills, injection facilities. He
25 hasn't studied or even looked at any one of those, is his

1 testimony.

2 And so we are faced with essentially a limitless
3 challenge to say, well, what context is he -- is he using
4 to determine whether our closure plan is adequate? Based
5 on his experience in comparison to other sites? I mean,
6 then we've got our other regulatory schemes, then we have
7 to give him the -- some fairly complex other regulatory
8 schemes that have exceptions, that have evolved over time,
9 that are case-specific to Louisiana or whatever.

10 So it really violates my client's rights to have
11 someone come in with undefined basis and critique my
12 Application, which is what they're proposing. That's
13 exactly what they're proposing. He's an expert because he
14 knows a lot of things on other facilities, and he can use
15 those to critique this Application, and we don't know what
16 those are.

17 MR. APODACA: Ms. MacQuesten?

18 MS. MacQUESTEN: The OCD continues to object to
19 Mr. Turnbough's testimony. The exchange that we heard
20 between Mr. Feldewert and Dr. Turnbough illustrates the
21 kind of problems we're going to run into if his testimony
22 is allowed.

23 The Hearing Examiner had just ruled that he would
24 not be allowed to compare the OCD Rules with other rules,
25 and he gave Mr. Feldewert the opportunity to examine Mr.

1 Turnbough and find out what he could tell us about OCD
2 Rules.

3 In response, we had a lengthy explanation that
4 although he didn't know much about OCD Rules, he was
5 perfectly happy to compare it to all these other rules that
6 are out there. That's what we're going to hear if we allow
7 his testimony.

8 What's interesting is that when he talked about
9 the OCD Rules he said, The Rule says what it means, it's
10 there for anyone to read. And I question the need for an
11 expert witness to come in and tell us what the OCD Rule
12 means, especially when it's based on his understanding of
13 what other rules mean, in other contexts, in other
14 regulatory agencies.

15 What we're really faced with in this is to read
16 the Rule yourselves -- and as Mr. Turnbough says, it says
17 what it means -- it's up to you to make a legal decision on
18 whether the Application and all the evidence that has been
19 presented in the two days of hearings is sufficient to
20 satisfy you that this permit Application will result in a
21 site that will not hurt the environment. It's a legal
22 conclusion. We don't need an expert to tell us how to
23 read that Rule.

24 MR. APODACA: The Hearing Examiner is persuaded
25 by the arguments of Mr. Domenici and Ms. MacQuesten. This

1 witness is not qualified as an expert in the proffered
2 areas that CRI has offered him. Upon the additional
3 examination opportunity that we gave CRI, the witness
4 failed to convince the Hearing Examiner that he has the
5 requisite expertise to offer opinion evidence that should
6 be accepted for evidence, and therefore he will not be
7 allowed to testify.

8 On with matters.

9 MR. FELDEWERT: Mr. Examiner, I would request,
10 then, permission to allow Dr. Turnbough to offer testimony
11 on a description of a facility with a diagram, including
12 the location of fences and cattleguards and detailed
13 construction installation diagrams of these facilities that
14 are normally provided to administrative agencies with these
15 types of oversights --

16 MR. APODACA: Mr. Feldewert, I don't think you
17 understood the ruling by the Hearing Examiner. We are not
18 going to go into a proceeding where we're going to have Mr.
19 Turnbough testify with respect to what other agencies, what
20 other regulatory schemes might require.

21 If he has done an analysis at this site, if he's
22 undertaken a report, if he has reviewed these regulations
23 in detail, he's reviewed evidence presented in other
24 proceedings, is prepared to offer testimony upon those
25 matters, that's one thing. But we are not going to

1 entertain with respect to comparing and contrasting rules
2 and regulations with other regulatory schemes, be it fences
3 or anything else.

4 Do you want to call your next witness?

5 MR. FELDEWERT: Well, if that's the instruction.
6 I would like to proffer a statement for purposes of the
7 record, and that is that Dr. Turnbough was here to talk
8 about the considerations that agencies take into account to
9 determine what information is necessary to demonstrate that
10 the operation of the facility would not adversely affect
11 the public health and environment. I understand the
12 Examiner's decision in this matter. I'm surprised at the
13 reluctance of the Division to want to hear that type of
14 evidence, but they have taken their position.

15 We'll call our next witness.

16 MR. APODACA: Thank you.

17 MR. FELDEWERT: Call Mr. Keith Gordon.

18 I. KEITH GORDON,

19 the witness herein, after having been first duly sworn upon
20 his oath, was examined and testified as follows:

21 DIRECT EXAMINATION

22 BY MR. FELDEWERT:

23 Q. Mr. Gordon, could you please state your name and
24 where you reside?

25 A. My name is Ian Keith Gordon, and I live in

1 Placitas.

2 Q. That's here in New Mexico?

3 A. Yes, it is.

4 Q. Okay. Do you have an educational -- would -- Can
5 you briefly describe your educational background?

6 A. I have a bachelor of science from Northwestern
7 University with a specialty -- a bachelor of science in
8 civil engineering with a specialty in geotechnical
9 engineering.

10 Q. And can you give us an under- -- Is CRI Exhibit
11 Number 9 a résumé of your educational background and your
12 experience?

13 A. Yes, that's my current CV.

14 Q. Can you provide the Hearing Examiner with your
15 working background, focusing primarily, if you would, on
16 New Mexico?

17 A. I'm a registered professional engineer in New
18 Mexico and 24 additional states. I have been working for
19 28 years in the field of land-disposal engineering, land-
20 disposal design, land-disposal closure and operations.

21 Currently I serve as president and principal
22 engineer of Gordon Environmental, Inc., which has a
23 professional staff of 15, and we are responsible for
24 permitting most of the regional landfills in New Mexico,
25 and we're also responsible for closing I think about 10

1 other facilities, older landfill facilities.

2 I also serve as the chairman on NMED's Waste
3 Facility Siting Committee that is re-writing the solid
4 waste plan.

5 Q. Have you been qualified as an expert engineer in
6 land-disposal issues before the New Mexico Environment
7 Department?

8 A. Yes, I have.

9 Q. What about any federal or state courts?

10 A. Yes, several times, as well as other state
11 regulatory agencies.

12 Q. And did your testimony include landfill
13 engineering issues?

14 A. Yes, it does.

15 MR. FELDEWERT: Okay, I would offer Mr. Gordon as
16 an expert engineer on land-disposal issues.

17 MR. DOMENICI: No objection.

18 MS. MacQUESTEN: No objection.

19 EXAMINER JONES: No objection? Mr. Gordon is
20 qualified as an expert engineer on land-disposal issues.

21 Q. (By Mr. Feldewert) Mr. Gordon, have you reviewed
22 Gandy Marley's Application for permit modification?

23 A. Yes, I have.

24 Q. And have you been present for the testimony that
25 occurred yesterday and today in connection with that

1 Application?

2 A. Yes, I have.

3 Q. And have you had throughout that time a chance to
4 look at all the submittals that have been put forth since
5 the filing and public notice of that Application?

6 A. Yes, I have.

7 Q. And are you familiar with the applicable OCD
8 requirements and guidelines?

9 A. Yes, I am.

10 Q. In your opinion, does the Application as provided
11 by Gandy Marley meet the requirements of Rule 711 and the
12 guidelines?

13 A. No, it's grossly deficient.

14 Q. Okay, why do you believe it is deficient?

15 A. There are many examples. Probably the one that I
16 focus in on is the requirement for diagrams and schematics
17 to illustrate what the design is going to look like. And
18 what I saw was essentially a cartoon sketch, which is not a
19 schematic, which is not an engineering drawing, which is
20 not sufficient to evaluate or to construct a facility.

21 Q. Would you turn to what's been marked as CRI
22 Exhibit Number 11?

23 A. Yes.

24 Q. Okay, before we get to those engineering -- or
25 that -- the design issue, I want to talk about some other

1 aspects of the Application.

2 Were you involved in developing this matrix?

3 A. Yes.

4 Q. Okay. Now, I'm going to instruct you, based on
5 the previous decisions by the Hearing Examiner, not to
6 discuss the Water Quality Control Commission requirements
7 and the Solid Waste Act requirements in these columns,
8 okay?

9 A. I understand.

10 Q. But focusing on Rule 711 and then on the OCD
11 guidelines, can you briefl- -- can you please walk the
12 Examiner through what you found in connection with the
13 Application and what is required by the Division's Rules
14 and Regulations?

15 A. Yes. for instance, under 711.B.(1).(b) it asks
16 for a plat and top and it identifies some additional
17 elements that are required. And though some of those are
18 essentially mapping requirements, there needs to be a site-
19 specific topograph in order for one to be able to evaluate
20 the drainage, for one to evaluate what the grades of the
21 cells are, to determine what soil strata the base of the
22 cell is going to be in, to determine what the final grades
23 of the closure facility are going to be, to evaluate the
24 runoff from that facility. So without a top map, it's very
25 -- basically, there's no engineering available.

1 Q. Okay, now let me stop you there. In your review
2 of the Application and in the testimony that has been
3 provided at this hearing, has there been a site-specific
4 topo map that meets this requirement?

5 A. No.

6 Q. Okay, why don't you continue?

7 A. With regard to some of the locational
8 restrictions, there's nothing specific. The discussion
9 with regard to floodplain is a perfect example.

10 With regard to hydrogeology, the data is
11 insufficient because we cannot evaluate the direction of
12 groundwater flow. In particular, the design doesn't
13 provide an expert review enough information to determine
14 its sufficiency or adequacy.

15 And -- The construction of an engineered system
16 or an engineered barrier is highly dependent not only on
17 the design but its ultimate performance, and there's no
18 information to document how the barriers would be
19 constructed, what the standards are going to be, what the
20 test methods are going to be, and how the barriers will be
21 protected following installation.

22 Q. Can I stop you there --

23 A. Yes.

24 Q. -- for a minute? You mentioned floodplain
25 information. As an engineer, what are you talking about

1 here when you say that this is inadequate?

2 A. Well, there -- it's unlikely that there are
3 readily available or published FEMA or FERM maps for the
4 area because it is so sparsely populated. However, one
5 would assume that you would send a hydrologist out there to
6 evaluate the facility and make that confirmation. When I
7 look at the topo data that is available on the Quad map,
8 there's an obvious concern about runoff from the caprock
9 and the slopes on and adjacent to the facility.

10 Q. Does the -- Does the Application provide any
11 information as to how they determined whether this facility
12 was subject to flooding?

13 A. I seem to recollect that they reviewed an
14 unpublished FEMA document, but I have no access to that
15 information.

16 Q. Okay. And you were talking about engineered
17 barriers. Now, during the testimony by the Applicant, they
18 testified that there was some kind of a term around their
19 facility. Do you recall that?

20 A. Yes.

21 Q. Do you have any information -- did they provide
22 any information about the nature of that berm, how high it
23 is, how it was structured, et cetera? In other words, what
24 kind of information would you expect to see as an engineer
25 with respect to the requirements of Rule 711 and the OCD

1 guidelines?

2 A. Well, the berm is obviously a major factor with
3 regard to stormwater management, that it would interrupt
4 the normal flow off of the caprock. There isn't
5 information to tell us of what type of material the berm is
6 constructed, how high it is and what the corresponding
7 drainage around the perimeter of the facility, if that is
8 indeed the configuration that is out there.

9 Q. Now, up till now they've been operating as a
10 landfarm. Are you aware of that?

11 A. Yes.

12 Q. Okay. Does the concerns about the flooding in
13 the berm increase as you move from a landfarm to a
14 landfill?

15 A. Drastically.

16 Q. In what sense?

17 A. The control of storm water is one of the most
18 significant issues with regard to the ongoing construction,
19 operations and, most importantly, post-closure of that
20 facility. If that storm water is not adequately
21 controlled, we're going to fill up that little bathtub and
22 exacerbate whatever problems have already occurred.

23 Q. Now, I think you had gotten to the point of
24 engineered barriers, and I want to get back to that, okay?
25 But before we get to that point specifically, can you

1 continue down this CRI Exhibit Number 11?

2 A. Yes, as I indicated, first there's design, and we
3 have little or not data on that. But equally as important,
4 to ensure that the systems operate the way they're supposed
5 to, there need to be quality-assurance documents that
6 govern the installation and then operating procedures that
7 relate to the ongoing performance of those systems, for
8 instance, a waste-screening plan that might preclude sharp
9 objects that could penetrate the liner or layers of
10 material that could be used to protect the liner systems.
11 These things are not -- are absent for the most part in the
12 Application.

13 Q. Okay, as you went -- as you developed this
14 schematic, what else struck you as you compared the
15 Application to the guidelines in Rule 711?

16 A. Well, there's a proposal to do groundwater
17 monitoring on a quarterly basis on the two wells. the
18 number of wells is certainly insufficient because we don't
19 know the direction of flow and would not pass muster for
20 upgradient/downgradient determination, nor do we have a
21 list of constituents that we're going to sample for, how
22 we're going to collect the samples and what we're going to
23 do with the groundwater data once we get it.

24 Q. And based on your knowledge as an engineer, are
25 the groundwater monitoring wells that are presently out

1 there sufficient to ensure the -- that this facility is
2 going to be adequately monitored?

3 A. No, and in fact they appeared to be placed in the
4 footprint, and that would be contrary to an attempt to
5 establish background, as well -- background in terms of
6 upgradient, as well as downgradient monitoring, to detect
7 any potential releases.

8 Q. Now, they do mention in their Application that
9 they're going to have monitoring wells, correct?

10 A. Yeah, in one of the subsequent documents, I
11 believe.

12 Q. Okay. There is a notation on this schematic of
13 NTA. What does that stand for?

14 A. Not technically adequate.

15 Q. Okay. How would you describe the level of detail
16 in the Application with the requirements of Rule 711 and
17 the OCD guidelines?

18 A. It is inadequate for a functional technical
19 review.

20 Q. So you can make a statement, for example, that
21 we're going to have -- we're going to close the facility.
22 But your point is, that statement alone is not sufficient
23 to evaluate the Application?

24 A. That's correct.

25 Q. And what type -- Let's focus a little bit on the

1 closure plan, on closure issues. Rule 711 requires that
2 there be a closure plan including a cost estimate
3 sufficient to close the facility to protect the public
4 health and the environment. As an engineer, what kind of
5 information would you need to evaluate whether a closure
6 plan and a cost estimate was going to be sufficient to
7 close the type of facility that Gandy Marley is proposing
8 in this case?

9 A. You would need to understand the nature of the
10 cap design, the sequence of placement, the sequence of cell
11 closure, again construction quality assurance to ensure
12 that the facility is properly closed. And typically for
13 financial assurance you're also going to look after some
14 post-closure care and monitoring, which would be
15 potentially site maintenance and ongoing groundwater
16 monitoring to ensure there are no releases after the
17 facility is closed.

18 Q. What else struck you as you compared the
19 Application to the requirements of Rule 711 and the OCD
20 guidelines?

21 A. Well, I think there's an issue with each and
22 every item and sub-item, and I think we've hit some of the
23 high points. I think as a civil engineer we get pretty
24 excited about drainage and soils. Those are the things
25 that I get excited about, so of course that's the area of

1 my focus.

2 Q. Let me ask you, are you familiar with how
3 hazardous waste is classified?

4 A. Yes.

5 Q. And are you familiar with some of the
6 constituents that are found in oilfield waste?

7 A. Yes.

8 Q. Let me have you turn to CRI Exhibit Number 10.
9 Did you prepare this diagram?

10 A. Yes.

11 Q. Can you explain it to the Examiner, please? What
12 are you showing here?

13 A. We used the material safety data sheets, the MSDS
14 sheets, for different hole conditioners and drilling
15 additives and then arrayed them against various regulatory
16 requirements and determined -- in order to evaluate their
17 definition vis-a-vis "hazardous".

18 Q. And what does this diagram show? Or what
19 conclusions do you draw from this diagram?

20 A. That there are bound to be a number of
21 constituents within the exempt E-and-P waste that would be
22 designated as hazardous wastes under RCRA or hazardous
23 substances under CERCLA.

24 MR. DOMENICI: Let me interrupt. What exhibit
25 are you looking at?

1 MR. FELDEWERT: I'm sorry, we're looking at CRI
2 Exhibit Number 10.

3 Q. (By Mr. Feldewert) Absent the --

4 MR. DOMENICI: Hold on, let me make sure I
5 have --

6 THE WITNESS: There's two sheets -- I only have
7 one of the -- You've got Table 1.2 and I've got Table 1.1.

8 MR. FELDEWERT: Well, I have Table 1.1.

9 MR. DOMENICI: Do you have two sheets?

10 MR. APODACA: We have only one table, Table 1.1.

11 MR. FELDEWERT: What do you have?

12 MR. DOMENICI: 1.2.

13 THE WITNESS: Oh, I found -- Table 1.2 is Exhibit
14 12 in my book.

15 MR. FELDEWERT: Mine too.

16 MR. DOMENICI: Okay, that's 1.1 in mine.

17 MR. FELDEWERT: Do you want to put those around?
18 What do you have, Mr. Examiner -- or --

19 MR. APODACA: We have under Tab 10, Table 1.1,
20 and under Tab 12, Table 1.2.

21 EXAMINER JONES: Yeah.

22 THE WITNESS: Sorry.

23 MR. DOMENICI: It's okay.

24 MR. FELDEWERT: It's my fault, Pete.

25 Q. (By Mr. Feldewert) Mr. Gordon, is it accurate to

1 say, then, that absent the exclusion provided in the
2 federal statute that the substances that Gandy Marley is
3 proposing to take would include what would otherwise be
4 classified as hazardous waste?

5 MR. DOMENICI: I'm going to object to that. I
6 don't think he laid a foundation, and I'd like to voir dire
7 him on this table.

8 MR. APODACA: Proceed.

9 VOIR DIRE EXAMINATION

10 BY MR. DOMENICI:

11 Q. What -- okay, can you go back through what -- so
12 you have hydrogen chloride and you have an X by it. What
13 is -- what does that signify?

14 A. This is a list of constituents that we pulled off
15 the MSDS, you got that part right, that --

16 Q. Yeah.

17 A. -- so that's where the column came from. And
18 then we matched it up under different regulatory frameworks
19 to determine how it was characterized.

20 Q. Okay. Well, isn't it true that MSDS materials
21 are not -- are materials that -- with these MSDS are a
22 product at the time MSDS is attached to them?

23 A. But they're not a product when they come to the
24 site.

25 Q. But you're using MSDS in the condition as a

1 product, to compare them to what they would be at the site,
2 correct?

3 A. Absent any data provided by you as to what the
4 waste stream consists of.

5 Q. So you're assuming you throw these products in
6 the site, basically, correct, for this? You take them and
7 you throw them in the site?

8 A. No, I'm assuming they arrive at the site as a
9 waste.

10 Q. In the same condition as to what they were
11 labeled on MSDS?

12 A. With the same constituents as the MSDS sheets.

13 Q. So no use -- they haven't been used, the haven't
14 been mixed, as far as this table --

15 A. Oh, no, they have been used and they have been
16 mixed and they have been discarded.

17 Q. Okay, let's just -- as far as this -- as far as
18 the numbers here, all you're assuming is, they've been
19 discarded? You're not doing any mixing in this
20 calculation, all you're assuming is, they've been
21 discarded, correct?

22 A. But the mixing would -- It's a list of
23 constituents, I don't understand the mixing component, I'm
24 not identifying how dilute they are.

25 Q. Okay, what information off the MSDS are you using

1 to place them on this?

2 A. The constituents that are listed on the MSDS that
3 go with the drilling fluids and the hole conditioners.

4 Q. Are you referring to the concentrations in the
5 MSDS?

6 A. No, strictly list.

7 Q. And then how are you determining that that item
8 listed in any concentration would require cleanup on
9 Superfund site?

10 A. We are listing -- under CERCLA the hazardous
11 substances are listed with no threshold concentration. So
12 the evaluation was, is it listed or is it not?

13 Q. Okay. On OSHA are they listed -- are they
14 determined without a concentration?

15 A. I don't know.

16 Q. On FIFRA, are they listed without a
17 concentration?

18 A. I don't know.

19 Q. And what does TRI column stand for? Toxic
20 release inventories?

21 A. Yes.

22 Q. What does that mean?

23 A. That's a list of toxic constituents from TSCA, I
24 believe.

25 Q. And does that have a concentration associated

1 with when those constituents are toxic?

2 A. No.

3 MR. DOMENICI: Okay, I would just ask that
4 columns 2 and 3 not be accepted, because he doesn't know
5 what the concentration would be to find it in a landfill,
6 he's just taking it off a label. And I don't think that's
7 necessary to his testimony, but I think it could be
8 misleading.

9 MR. FELDEWERT: Which columns are you talking
10 about?

11 MR. DOMENICI: Two and three, OSHA and FIFRA.

12 Mr. Hearing Examiner, there are things that could
13 be in there, but there's no evidence that they would be in
14 there at a concentration that would trigger OSHA or FIFRA
15 in this witness.

16 EXAMINER JONES: Are you going to show
17 concentrations later?

18 THE WITNESS: (Nods)

19 MR. DOMENICI: I think he testified he didn't
20 know the concentrations though. So --

21 MR. APODACA: You want excluded columns 2 and 3?

22 MR. DOMENICI: At least for -- He hasn't laid a
23 foundation that those --

24 MR. APODACA: Well, until you lay a foundation,
25 Mr. Feldewert, we won't consider columns 2 and 3. But

1 where are you going with this? Are we going to receive
2 testimony that all these elements are going to be present
3 in oilfield waste?

4 MR. FELDEWERT: Well --

5 MR. APODACA: Because this is -- you know, this
6 is a list of elements from an environmental-defense kind of
7 -- I'm not quite sure where this came from, but -- Mr.
8 Domenici hasn't objected, but what is the relevance of
9 this? Are these going to be identified as oilfield
10 contaminant waste?

11 MR. FELDEWERT: I would approach it a little
12 differently, and let me ask a few questions if I may.

13 MR. APODACA: Proceed.

14 DIRECT EXAMINATION (Resumed)

15 BY MR. FELDEWERT:

16 Q. Have you -- In reviewing the Application that has
17 been filed by Gandy Marley, did they provide any data on
18 the -- any detailed data on the types of waste streams that
19 they anticipate accepting?

20 A. No.

21 Q. And do those -- Is there any data provided on the
22 concentrations of the various types of waste streams that
23 they anticipate accepting?

24 A. No, although there is some soil test results that
25 show constituents that are hazardous under RCRA Subtitle C.

1 Q. In terms of an engineer, then, based on the data
2 that you have about what is going into this facility, are
3 you assuming on these tables, then, that there is going to
4 be volumes that are sufficient to meet the thresholds under
5 each of these Acts that you've identified on Table 1.1?

6 A. No, actually what we're trying to do is, the
7 compatibility of the liner system is very dependent upon
8 the types of waste streams. Absent actual test data
9 provided by the Applicant, we then look at typical data for
10 the same types of waste from the same type of industry, and
11 Table 1.2, which is actually a companion table with the
12 first one, has concentrations along with the WQCC human
13 health standards provided as a baseline for comparison, and
14 shows that many of these constituents are present in very
15 large concentrations, and organic petrochemicals are the
16 single biggest threat, other than probably water pressure,
17 to a clay liner system.

18 MR. FELDEWERT: We would then move the admission
19 into evidence of CRI Exhibits 10 and 13.

20 MR. DOMENICI: I would object to -- 10 and 13, or
21 12?

22 MR. FELDEWERT: 10 and 12, I'm sorry.

23 MR. DOMENICI: Okay, I would object on Exhibit --
24 1.2, which is Exhibit 12. There's a column for the "WQCC
25 Human Health Standards". There's been no foundation as to

1 -- that that information is necessary for compatibility
2 analysis, which is what I understood the purpose of these
3 tables were for, for liner compatibility. So I think
4 that's misleading.

5 Second, the source of that column on the right,
6 down at the bottom there's a footnote, "EPA - Profile of
7 the Oil and Gas Extraction Industry". I would like to ask
8 some questions on that, if I could.

9 MR. APODACA: Proceed to ask your questions.

10 VOIR DIRE EXAMINATION

11 BY MR. DOMENICI:

12 Q. What's your information, Mr. Gordon, as to where
13 that profile came up with --

14 A. I have a copy of it with me. It's a November,
15 2000, document, and essentially it's an EPA update of the
16 evaluation they did when they decided to exempt E-and-P
17 waste from RCRA Subtitle C, and this is a compilation of
18 some of the research done primarily by Argonne National
19 Laboratory.

20 Q. Okay, when you say "they decided", you're saying
21 EPA-exempted exploration?

22 A. Well, I'm not sure of the exact sequence of how
23 that works. It's my understanding that E-and-P waste is
24 exempted from Subtitle C of RCRA, and I assume that EPA
25 would be the one who made that exemption.

1 Q. Are you aware that Congress made that exemption?

2 A. That's fine.

3 Q. And so are you saying Congress used this report
4 in some fashion, or this --

5 A. I think you're oversimplifying how that entire
6 process worked in that the only player was the Congress.
7 I'm certain that --

8 Q. Okay.

9 A. -- EPA had a big say in how it went, as well as
10 the oil and gas industry.

11 Q. Okay, I'm just trying to see -- You're saying
12 this is a 2000 study. Are you aware that the exemption
13 predates 2000?

14 A. I certainly am.

15 Q. So this study was not done to create the
16 exemption?

17 A. No, this, as I said, was an update of that
18 information that was developed for that purpose when they
19 were considering their options.

20 Q. And the exemption is still in place?

21 A. It is.

22 Q. And did you try to do anything to determine
23 whether this study was accurate with respect to Permian
24 Basin activities?

25 A. We looked at it, and it was difficult to find

1 local site-specific information, so we matched it up by the
2 type of activity, the type of drilling and exploration
3 activity.

4 Q. And what do you mean by that?

5 A. Well, if you were -- Are they, you know,
6 tankbottoms, are they drill cuttings, are they this and are
7 they that?

8 Q. Okay. And looking at Exhibit 10, I'm still not
9 clear, how are you planning to use -- how are you relying
10 on the information in Exhibit 10 for any opinion?

11 A. Again, absent anything specific or waste-specific
12 data provided by the Applicant, as an engineer I need to
13 make some assumptions about what type of a liner system
14 will be suitable for that waste stream. Since you don't
15 provide me any data, then I go and try to generate data for
16 similar waste streams where data is available.

17 Q. Okay, how are you using that data?

18 A. I'm using that data to determine that ultimately
19 this -- the waste, absent the exemption, is hazardous
20 waste, and therefore I would design a hazardous-waste line
21 for this facility.

22 Q. The specific information on Exhibit 10, do you
23 have a check by "Superfund" or not, as I understand this?
24 Exhibit 10. You have a material and then you have a check
25 under "Superfund".

1 A. Yes.

2 Q. How does the fact that there's a check for one of
3 these materials under a "Superfund" column -- how are you
4 using that information?

5 A. I'm using that because the definitions of the
6 materials and the terminology and MSDS does not lend itself
7 to a table like 1.2, so we used essentially the street
8 names, if you will, as presented on the MSDS and then
9 matched them up with different regulatory frameworks. And
10 Superfund does not differentiate by concentration, as you
11 know.

12 Q. Okay, but I still -- I don't understand the fact
13 that hydrogen chloride might be listed under CERCLA. What
14 are you using that information for?

15 A. I am trying to make assumptions, absent waste-
16 stream data, as to what constituents could potentially
17 impact my liner system.

18 Q. In its presence or not?

19 A. Yes.

20 Q. Okay. What difference does it make that it's
21 under "Superfund" is my question, then?

22 A. Some of them, if we had the time and we had a
23 chemist on board, I probably could have converted this list
24 over. But I think it's very evident that a number of them
25 made it to the CERCLA hazardous substances list, and

1 there's a correlation between that and RCRA Subtitle C.

2 Q. What's that correlation?

3 A. That correlation is, they're typically going to
4 have a commonality in terms of the hazardous substances and
5 hazardous wastes. However, RCRA Subtitle C establishes, of
6 course, concentrations to establish the threshold.

7 MR. DOMENICI: Okay, I -- I'll do it on cross-
8 exam. I'll withdraw my objection to those two.

9 EXAMINER JONES: Go ahead, he --

10 MR. FELDEWERT: Have they been admitted?

11 MR. DOMENICI: I still want those columns
12 excluded. The WQCC column, I would object to that.
13 There's been no testimony as to why that's a required part
14 of this. And the other two columns on Exhibit 10. With
15 that, I'll withdraw any objection to the exhibits.

16 MR. APODACA: Are you amenable to that?

17 MR. FELDEWERT: I guess I'm at a loss as to the
18 basis for the objection. I mean, these are constituents
19 that are listed, and the WQCC human health standards are
20 set forth for those constituents on Table 1.2, and the
21 pollution concentrations in treatment and completion fluids
22 are listed in Table 1.2. What is the objection to that --
23 to those listings? I don't understand.

24 MR. DOMENICI: There's no foundation that the
25 WQCC human health standards have any application to these

1 materials in the landfill, which I understand the witness
2 is talking about. It was compatibility at the interface
3 with the liner.

4 THE WITNESS: Well, if I could address that,
5 don't you think that there's a potential human health and
6 safety issue associated with potential exposure to those
7 waste streams and that the concentrations being thousands
8 of times greater than the threshold limit has some
9 applicability?

10 Q. (By Mr. Domenici) What is the applicability?
11 You say "some applicability". We could list columns and
12 columns of things that have "some applicability".

13 A. There are people who are going to be working out
14 there at this facility, trying to inter these wastes, and I
15 assume the potential impacts on those workers is part of
16 what we are reviewing under OCD 711, public health and
17 safety.

18 Q. WQCC human health standards is not a worker
19 safety standard, is it?

20 A. No.

21 MR. DOMENICI: I object to that, using that
22 characterization with no foundation that applies to what
23 this witness is testifying.

24 MR. APODACA: Mr. Domenici, how is human health
25 different from public health --

1 MR. DOMENICI: Human health --

2 MR. APODACA: -- because Rule 711 does speak to
3 operations that --

4 MR. DOMENICI: Yes, let me lay a foundation.

5 Q. (By Mr. Domenici) Those are water standards,
6 correct?

7 A. Yes.

8 Q. And you're not tes- -- you're testifying about
9 concerns over the impact of these chemicals on the liner,
10 as I understand it, the second column?

11 MR. FELDEWERT: I object, that is not his
12 testimony. He's also testified that they're going to have
13 an impact on public health and the environment.

14 MR. DOMENICI: Okay, then I need to ask him some
15 questions.

16 Q. (By Mr. Domenici) Where would the impact to
17 human health through water occur at this facility?

18 A. Contaminated ground and surface waters as a
19 result of contact with infiltration with the waste mass.

20 Q. So this -- you're -- this -- You're putting this
21 column in to indicate that workers should not drink this
22 water; is that --

23 A. I'm putting this column in, in order to provide a
24 frame of reference with regard to how high those
25 concentrations are on the following column as it pertains

1 to the protection of the workers as well as constituents
2 that could harm the integrity of the liner system.

3 Q. Okay, the WQCC standards have nothing to do with
4 harming the liner; do we agree on that?

5 A. Yes, I agree with that.

6 Q. Okay, and they don't have anything to do with air
7 exposure?

8 A. I wouldn't say that.

9 Q. These are not the standards for air exposure to
10 the items that they're listed across from?

11 A. Is there not a potential that these, through
12 contamination of fluids, could become airborne? If you
13 have these high concentrations in water, so much higher
14 than the water standard, is that not a potential risk from
15 a contact standpoint, from a dermal contact standpoint,
16 from an inhalation standpoint?

17 Q. Well, let me just ask you, what is the WQCC human
18 health standard column that you've got here? What exposure
19 does that contemplate?

20 A. Water, drinking water. Well, it's ground and
21 surface water --

22 Q. Through what --

23 A. -- protection standards.

24 Q. -- through what exposure method to the human
25 health? Are you --

1 A. Drinking water.

2 MR. DOMENICI: Okay, then I would move to exclude
3 this unless he can show a connection with drinking this
4 water. That's what those standards are. He's just
5 testified to that.

6 (Off the record)

7 MR. FELDEWERT: Mr. Examiner, I would suggest
8 that the quibbling that is going on here goes more --

9 MR. APODACA: We're going to end the quibbling
10 right now. We'll admit Exhibits 10 and 12. Mr. Domenici,
11 you're free to examine the witness during cross-examination
12 about how these WQCC human health standards would be
13 impacted. Drinking water would probably be the most
14 logical, so that would be the context in which we'd look at
15 them.

16 MR. DOMENICI: Thank you.

17 DIRECT EXAMINATION (Resumed)

18 BY MR. FELDEWERT:

19 Q. Mr. Gordon, do these tables indicate why a land
20 disposal facility is much different from a land- -- I'm
21 sorry, why a landfarm operation is much different from a
22 landfill when you're dealing with oil and gas wastes?

23 A. Yes, they do.

24 Q. Okay. And when you're dealing with hazardous
25 substances like this, are there certain engineering and

1 design criteria that you need to take into account in
2 designing a facility that can safely store these types of
3 wastes for a long period of time?

4 A. Yes, most definitely.

5 Q. Okay. What type of design is appropriate for a
6 facility like this that proposes to accept substances that
7 are similar in character to hazardous waste?

8 A. As an engineer, I would typically design a liner
9 that would be able to withstand that type of attack. And
10 in most cases that's going to be a double composite liner
11 with a leak-detection system.

12 Q. Okay. Now, do you have an exhibit that we can go
13 through that would help you in your testimony on this liner
14 issue?

15 A. Yes, it's identified as CRI 15.

16 Q. Okay, why don't you review that with the
17 Examiner, please?

18 A. There are three different liner configurations
19 shown here, all of which are used for land disposal. One
20 is similar to a discharge permit at the WIPP site where all
21 we're storing is sand, so we get by with a single 60-mil.
22 high-density polyethylene liner --

23 Q. Let me stop you there. You said you're storing
24 at WIPP what?

25 A. Pardon?

1 Q. What are you storing at WIPP?

2 A. Mined salt.

3 Q. Salts, okay, I think you said sands. Go ahead.

4 A. I'm sorry.

5 The second one is a liner that has been approved
6 -- in fact, this is kind of the New Mexico standard liner
7 for Subtitle D household waste landfill systems, where we
8 have a double-liner system, typically a flexible-membrane
9 liner, the HDPE, on top of either a geosynthetic clay or a
10 compacted clay and again the protective soil there, which
11 is crucial and should be a minimum of 18 inches.

12 And we finally escalate up to when the material
13 is particularly hazardous or may have a potential impact on
14 our different liner systems, or may contain fluids, then we
15 want to go with a double liner that has a leak-detection in
16 between.

17 And one of the most important things that's shown
18 on here that isn't shown on the proposed Application design
19 is the collection of fluids. Without the collection of
20 fluids from the liner system, the head on that liner as
21 shown in the cartoon could exceed over 30 feet at the time
22 of facility closure or at some point during post-closure if
23 you're not actively extracting those fluids. And there's a
24 linear correlation between the head on the liner and the
25 amount of leakage.

1 Q. Okay. Now, before we get to that part, let me
2 put some -- try to put some context on here. There has
3 been discussion today about the Triassic Park facility?

4 A. Yes.

5 Q. Okay, are you familiar with the liner that is
6 required for that facility?

7 A. Yes, it looks like --

8 Q. And is that a facility that is accepting -- or
9 permitted to accept hazardous waste?

10 A. Yes.

11 Q. In a circumstance where the facility sits on an
12 impermeable bed of clay?

13 A. Yes.

14 Q. All right. What type of liner is required for
15 that facility to accept hazardous waste?

16 A. The liner option identified as Number 3 and
17 labeled "Hazardous Waste".

18 Q. That's the one with the double liner and the
19 leak-detection system?

20 A. Yes.

21 Q. Okay. In terms of the characteristics of the
22 wastes that Gandy Marley proposes to accept -- again, not
23 -- we don't have any information on the concentrations or
24 anything along those lines, but based on the
25 characteristics of the wastes that they propose to accept,

1 where do those wastes fall in this chart with respect to
2 the appropriate liner, in your opinion as an engineer?

3 A. Under number 3, double liner with leak detection.

4 Q. Now, you have reviewed Gandy Marley's proposal to
5 use a one-foot clay liner?

6 A. Yes.

7 Q. Okay. Where is that liner depicted on this
8 chart?

9 A. It's off the chart.

10 Q. It's off the chart, which direction?

11 A. In the lower end of the hierarchy.

12 Q. So it's -- does that mean, if I'm interpreting
13 you correctly, that it is less protective than the single
14 liner that you show at the top of this page that was used
15 at the WIPP site for salts?

16 A. Very much so, very much less protective.

17 Q. Now, would you discuss for the Examiner the
18 problems that you see with a clay liner in a circumstance
19 where you're going to be storing for an indefinite period
20 of time wastes that have hazardous constituents within
21 them?

22 A. There are a number of problems, and I can only
23 address those that -- where there is some information
24 provided in the Application.

25 The thickness of the liner is certainly a

1 problem. It's very hard to build a clay liner that's only
2 one foot thick, and it's even harder to protect it. There
3 was testimony that we might have chunks of concrete and
4 pipe interred in the facility, and even with the one foot
5 of remediated soil proposed it's unlikely that we will end
6 up with a liner that doesn't lose its integrity at some
7 point in the filling process.

8 In addition, there's a potential -- and again,
9 there's not data telling me what type of clay is going to
10 be used, but the potential of interaction between salt
11 material with the clay liner, or probably even more
12 deleterious would be petrochemical interaction with the
13 clays, which have been shown to cause failure in certain
14 conditions.

15 Q. All right. Now, to be fair, doesn't the Gandy
16 Marley -- Well, let me ask you this.

17 Does the Application as filed and put on for
18 public notice -- does that give you any indication of the
19 type of clay liner that they intend to use in terms of
20 compaction?

21 A. They do indicate that they would compact it to 90
22 percent of standard Proctor, and they've provided us with
23 one Proctor sample to look at.

24 Q. Okay. Now, do they -- but in their Application,
25 do they give you any kind of a standard as to what they're

1 going to compact the clay to?

2 A. Well, that's the compaction standard. The
3 corresponding hydraulic conductivity or permeability is
4 supposed to be 1.0×10^{-7} .

5 Q. Okay, that's the standard that they propose to
6 use?

7 A. Yes.

8 Q. Okay. Then I want you to go to their
9 Application, which is marked as Gandy Marley Exhibit Number
10 5, I believe.

11 A. I have it.

12 Q. Okay. And you've reviewed this Application?

13 A. I have.

14 Q. All right. Now, you had -- you identified their
15 standard as 1×10^{-7} ?

16 A. It's important, it's 1.0×10^{-7} centimeters per
17 second.

18 Q. Okay, that's the compaction ratio that they're
19 targeting?

20 A. No, that's the permeability that results from
21 compaction to 90 percent of standard.

22 Q. All right, thank you.

23 A. Sorry.

24 Q. And can you then turn to what evidence is
25 provided in this Application as to the compaction that they

1 have been able to achieve, based on tests?

2 A. On an un-numbered page that is appended to that
3 Application, there is what we refer to as a Proctor density
4 curve.

5 Q. Does it have the name Quality Control
6 Engineering, Inc., at the top --

7 A. Correct --

8 Q. -- of the page?

9 A. -- it does.

10 Q. And it has a little chart on the right-hand side,
11 with a bell curve on it?

12 A. That is correct.

13 Q. And when was this report generated?

14 A. March 2 of '05. At least that's when it was
15 signed off.

16 Q. And based on your review of the Application, what
17 was the intention of attaching this report to their
18 Application?

19 A. Well, I'm assuming we are to believe that a
20 single Proctor density report with one permeability will be
21 sufficient for us to evaluate the types of materials that
22 will be used for the liner.

23 Q. Okay, let me stop you there. As an engineer,
24 would you want to have more than just one test?

25 A. Oh, yes, many more.

1 Q. And all they've provided is one?

2 A. Yes.

3 Q. Okay. In the single test that they have provided
4 as part of their Application, what result does it show?

5 A. That the permeability actually fails their own
6 standard. And again, this is the only test result we have
7 by a factor of almost two.

8 Q. And where is that shown on this report?

9 A. It is shown as the coefficient of permeability in
10 the lower left-hand corner.

11 Q. That's the one that says 1.7×10^{-7} ?

12 A. Yes, and there's more specificity on that
13 information on the following sheet, which is the data
14 sheet.

15 Q. Can you interpret that for us, please?

16 A. Essentially, they got very close to their target
17 compaction standard of 90 percent. They hit 89.5. But
18 when they were done, their permeability failed the standard
19 they had established in their prehearing filing.

20 Q. All right. Now, what other design issues are
21 associated with their clay liner, based on your review of
22 the evidence that we have today?

23 A. Probably one of the most -- the biggest areas of
24 concern is the lack of a quality-control plan to ensure
25 that the material will meet its performance specification

1 once it's laid down, that there needs to be a prescribed
2 method for quality control for test methods, test
3 frequencies and third-party observation, to make sure that
4 the thing will work the way it's supposed to.

5 Q. Okay. Now, you've been involved in the filing of
6 applications --

7 A. Yes.

8 Q. -- for other agencies?

9 A. Yes.

10 Q. Okay, as part of your filings do you normally
11 provide construction quality control standards?

12 MR. DOMENICI: I'm going to object to that.

13 MR. APODACA: Sustained.

14 Q. (By Mr. Feldewert) And -- Okay. Now, you
15 mentioned the absence -- there are not any construction
16 quality control standards within their Application?

17 A. No, sir, and there are no construction plans as
18 well.

19 Though I heard testimony otherwise, I don't know
20 of anybody who could put down a sophisticated liner for a
21 land disposal facility without some engineering drawings.

22 Q. Now, what type of engineering drawings would you
23 need?

24 A. Well, you would need a set of plans and sections
25 that had survey coordinates and contours and thicknesses

1 and a variety of technical specifications, particularly
2 when you get into the geosynthetics, there are panel
3 layouts and seam directions.

4 And again the most important thing is, the design
5 is entirely lacking a fluid-collection system, so it's
6 going to fill up like a bathtub over time, with no way to
7 relieve the pressure on the liner.

8 Q. Okay, and we keep talking about that. I want to
9 eventually get to that, but --

10 A. I know, but it's kind of a hot button.

11 Q. Don't let me forget, okay?

12 A. Oh, I won't.

13 Q. All right. Now Exhibit -- Do you have an example
14 of the type of design detail that is necessary to ensure
15 that when you put down a liner, that it is going to be
16 installed and operate as anticipated?

17 A. Did we submit one for the record?

18 Q. Let me have you take a -- Well, let me do this,
19 let me have you take a look at CRI Exhibit 16. And I may
20 have misspoke. Does this go to the design of the cell?

21 A. Yes, it does.

22 Q. Does this include information on the liner
23 system?

24 A. Yes, this is the type of information one would
25 need if one were actually going to try to build a land

1 disposal cell.

2 MR. DOMENICI: Can I voir dire on this? Can I
3 voir dire on this, if he has --

4 MR. APODACA: Proceed.

5 MR. FELDEWERT: I haven't admitted it into
6 evidence yet.

7 MR. DOMENICI: Or -- He hasn't testified about it
8 yet --

9 MR. FELDEWERT: Okay --

10 MR. DOMENICI: -- or I'd ask he not testify.

11 MR. APODACA: Why don't you proceed?

12 MR. DOMENICI: Okay.

13 VOIR DIRE EXAMINATION

14 BY MR. DOMENICI:

15 Q. Was this submitted as part of an NMED
16 application?

17 A. Yes.

18 Q. And do they have requirements in their
19 regulations that require this, that you prepare and submit
20 this?

21 A. They have requirements, but I'm not sure how to
22 answer that question. The don't tell me that this is the
23 drawing they need, they tell me what their standards are,
24 and then I present them drawings illustrating that I've met
25 those standards.

1 Q. And are those standards different than Section
2 711?

3 A. No.

4 Q. What section, what standard in 711, is
5 comparable?

6 MR. FELDEWERT: Do you have a copy of Rule 711?

7 THE WITNESS: Is it an exhibit? It's the section
8 that relates to the construction -- it's either in 711 or
9 the guidelines, that requires the submission of sufficient
10 construction information.

11 MR. APODACA: I think it's...

12 (Off the record)

13 Q. (By Mr. Domenici) Let me just ask it this way.
14 What OCD requirement are you contending -- either Rule or
15 guideline are you contending requires this submission?

16 A. The one that requires -- I believe it's -- I
17 thought it was in the Rule, and it requires that you
18 provide information on the construction.

19 If you want me to read the language to you, or if
20 you want to read it to me --

21 Q. Is this the one that says engineering designs
22 must be submitted to OCD for approval prior to
23 construction?

24 MR. FELDEWERT: Let me hand you -- If I may
25 approach?

1 THE WITNESS: Different one.

2 MR. FELDEWERT: I'm sorry, it's highlighted, it's
3 the only copy I have. I thought there was one up here.

4 THE WITNESS: There probably is.

5 Okay, I'm under 711.B.(1), looking for the
6 appropriate subsection. Detailed construction and
7 installation diagrams, as identified under B.(1).(d)

8 Q. (By Mr. Domenici) This is a stamped engineering
9 drawing, isn't it? Exhibit 16?

10 A. No.

11 Q. Or this is an engineering drawing, correct?

12 A. This is an engineering -- this is a detailed
13 construction installation diagram.

14 Q. And could construction take place off of this?

15 A. Yes.

16 MR. DOMENICI: No objection, I'll let it in. I'm
17 not objecting.

18 MR. FELDEWERT: I haven't proffered it, but I'll
19 proffer CRI Exhibit Number 16.

20 MR. APODACA: You should do it while he's -- you
21 should do it quickly.

22 EXAMINER JONES: All right, Exhibit 16 will be --
23 Any other objections?

24 MS. MacQUESTEN: No objection.

25 EXAMINER JONES: Exhibit 16 will be admitted.

1 MR. FELDEWERT: I'm sorry, you were interrupted.
2 Can you walk us through this diagram and tell us why it's
3 important to have this type of detailed construction --

4 EXAMINER JONES: Mr. Feldewert, can -- Let's go
5 on a break for 15 minutes. Come back at 20 after 3:00.

6 MR. APODACA: And before we take a break, will
7 this be your last witness?

8 MR. FELDEWERT: Subject to some conference with
9 my colleagues, I expect it should be, but I need to confer.

10 MR. APODACA: All right. And how much additional
11 time will you need for your direct?

12 MR. FELDEWERT: That depends on how many
13 objections we keep getting. But I will assume --

14 MR. APODACA: Be optimistic.

15 MR. FELDEWERT: I would think we should be able
16 to finish in an hour.

17 MR. APODACA: That will mean two hours, so that
18 will be...

19 MR. DOMENICI: We're going to have at least two
20 -- We're going to have at least two rebuttal witnesses,
21 just for scheduling purposes.

22 MR. APODACA: All right, that's 6:00 then. Very
23 well --

24 MR. DOMENICI: Okay.

25 MR. APODACA: -- take a break.

1 (Thereupon, a recess was taken at 3:06 p.m.)

2 (The following proceedings had at 3:27 p.m.)

3 EXAMINER JONES: Okay, let's go back on the
4 record. And Mr. Feldewert?

5 DIRECT EXAMINATION (Resumed)

6 BY MR. FELDEWERT:

7 Q. Mr. Gordon, we were looking -- or we were about
8 to look at Exhibit -- what's been admitted as CRI Exhibit
9 Number 16.

10 A. Yes, sir.

11 Q. Now, can you just walk us through, in a brief
12 fashion, what this shows and why it's important to have
13 this kind of detail when you are submitting a construction
14 installation diagram?

15 A. The things that are crucial about this and that
16 an engineer would need to know in order to review a design
17 are the slopes in the liner systems; the locations of the
18 leachate collection pipes; the flow distances to the pipes;
19 the side slopes -- we're showing four-to-ones here; this
20 facility has three-to-ones and the stability issue has not
21 been addressed -- access to the disposal area vis-a-vis
22 ramps; risers, which are used both to collect -- to pump
23 the leachate off the floor, to limit the head, and
24 typically we put another riser at the upgradient end in
25 case we need to clean out the pipe; and it also shows the

1 roadway network, as well as the perimeter drainage; and all
2 of it is based on a site-specific topography in order that
3 we can establish slopes for the drainage ways, widths for
4 the drainage ways, do drainage calculations corresponding
5 to those site-specific topographic conditions.

6 By the way, there are obviously 13 other plan
7 sheets that go along with this, that go into some of those
8 other elements in more detail.

9 Q. Okay. So you would have something in addition to
10 this?

11 A. Oh, yeah.

12 Q. Okay. So when Rule 711 -- Do you have Rule 711
13 in front of you?

14 A. I do.

15 Q. Rule 711.B.(1).(a) -- (d), and it talks about "A
16 description of the facility with a diagram indicating
17 locations of fences and cattle guards..." comma "...and
18 detailed construction/installation diagrams of any pits,
19 liners, dikes, piping, sprayers, and tanks on the
20 facility..."

21 Is this the type of diagram that as an engineer
22 you would submit as part of your best management practices
23 to meet that requirement?

24 A. Along with several others, yes.

25 Q. Okay. Now, I want you to contrast that with the

1 diagram that was submitted as part of the Application in
2 this case, and I'll have you look at what's been marked as
3 Gandy Marley Exhibit -- Oh, wait a minute. There it is,
4 Gandy Marley Exhibit Number 5. Do you still have that in
5 front of you? That was their Application.

6 A. Yeah, I do. I moved it, though. I'm good.

7 Q. Okay. Where is -- can you turn to the diagram
8 that was submitted with this Application?

9 A. Yes.

10 Q. Have you seen -- have they -- as the -- you've
11 sat here now, has the Applicant provided any other -- any
12 other design, detailed construction or installation
13 diagrams for their proposed facility other than what's
14 here?

15 A. No.

16 Q. Okay. If you were an engineer evaluating this
17 design, what problems do you see?

18 A. Well, we already talked about the lack of a
19 leachate collection system and no defined slopes on the
20 sidewalls and the floor.

21 Other things that are at issue include the fact
22 that based on a review of the near-surface geology, it
23 appears that the base of these cells will be situated
24 squarely within the alluvium, and that creates a
25 permeability differential, that they're attempting to

1 achieve a 1×10^{-7} permeability in their liner, and we're
2 going to have a material that is far more permeable than
3 that directly below the liner.

4 And what that would do is, when the leak does
5 occur -- and it's likely that it will -- that will
6 accelerate the flow out of the cell of the accumulated
7 leachate and dispersion of that and its related
8 contaminants into the environment.

9 Q. Now, you mentioned the leachate collection
10 system, and I keep interrupting you on that. Why is that
11 important in a landfill like the one that is proposed by
12 Gandy Marley? What are the problems that it alleviates,
13 and why is a leachate collection system needed?

14 A. Well, first of all, there is a discussion of
15 solidification of the wastes. I've yet to see
16 specifications.

17 We would normally do a pane filter test to make
18 sure the waste was dry when it went in.

19 But probably the biggest problem is the
20 infiltration from storm water, that there's nothing I've
21 seen that is going to control that, even that that falls
22 directly over the footprint. And even though we're in an
23 arid location, water will not evaporate out of a disposal
24 cell like this at the same rate it accumulates, even if
25 there's only 10 or 12 inches of rain a year. The water

1 will continue to accumulate. And last year we got two feet
2 of water in that location, in terms of annual rainfall.

3 So the potential there is -- the likelihood there
4 is, as you continue flowing that, the materials at the
5 bottom will be saturated. If you put this two foot of sand
6 on top of it, which has been discussed, more infiltration
7 will get in to the point where the head continues to rise,
8 the pressure on the liner continues to rise, and there
9 could be, under the diagram, up to 30 feet of head on liner
10 and more, which is a very excessive amount.

11 It is likely to try to find a weak spot in the
12 liner which was either improperly constructed or
13 potentially impacted by some of the debris that was
14 disposed of in the cell.

15 Q. In connection with this cell design, is there --
16 are there other State of New Mexico permits that they would
17 have to obtain before they could construct this type of a
18 facility?

19 A. Well, in my reading of the guidelines, there's a
20 requirement that the State Engineer be provided with a
21 permit application for any facility that -- any pit or
22 above-grade facility with a capacity greater than 10 acre-
23 feet.

24 Q. Is this -- As drawn here, does that have a
25 capacity greater than 10 acre-feet?

1 A. Not necessarily as drawn there, but as drawn on
2 the -- or as shown on the plan view and then discussed by
3 Mr. Corser, that they intended to keep extending those
4 cells. The capacity will certainly exceed 10 acre-feet or
5 16,000 cubic yards.

6 Q. Is there any evidence in the Application that
7 they have followed this requirement in the guidelines to
8 submit their proposed plan to the State Engineer's Office?

9 A. No.

10 Q. I want to now, if we could -- You have that
11 Application in front of you, right?

12 A. I do.

13 Q. Actually, I tell you what. Rather than do that,
14 do you have Rule 711 in front of you?

15 A. I do. I'm just putting these back in order here
16 so I can find them again.

17 Q. Okay, I want to apply your expertise as an
18 engineer to the requirements in this rule and what was
19 submitted in the Application, okay?

20 A. Yes.

21 Q. All right. B.(1).(a), there's nothing of
22 interest there to an engineer, correct?

23 A. Correct.

24 Q. All right. B.(1).(b), you've already talked
25 about the absence of a sufficient plat and topographic map,

1 correct?

2 A. Yes.

3 Q. All right. B.(1).(c), there's nothing of
4 interest there to an engineer?

5 A. Correct.

6 Q. B.(1).(d) -- Wait a minute, am I saying this
7 right?

8 A. Yes, you are.

9 Q. B.(1).(a) -- Yeah, B.(1).(d), thank you. We've
10 already touched that, correct?

11 A. Yes.

12 Q. All right. B.(1).(e), "A plan for management of
13 approved wastes." In your review of the Application is
14 there a plan for the management of these approved wastes?

15 A. Not that I would qualify as a plan, and probably
16 the thing of greatest interest is making sure that
17 incompatible-type materials are not mixed together and that
18 any debris that's taken in is managed in such a way that it
19 will not impact the proposed liner system.

20 So there's basically a waste-screening component
21 that seems to be missing where somebody, visually or by
22 testing, evaluates the material to make sure it meets the
23 performance standard of the containment system.

24 Q. Are you talking about things like make sure that
25 you do a pane filter test on any liquid material?

1 A. Exactly.

2 Q. Dr. Neeper yesterday talked about debris coming
3 to the surface, like stones. Are you talking about there's
4 no system in place to deal with those types of issues?

5 A. No, the debris issue, to me, is more of a liner-
6 failure problem in terms of, I heard discussion about
7 concrete, chunks of concrete and pipes. Pipes really scare
8 me in terms of how are they going to be placed when you've
9 got this skimpy little one foot of clay and one foot of
10 remediated soils? How are we going to be sure that we
11 don't puncture or weaken the liner when we're placing that
12 type of material? What type of equipment are we going to
13 use that will not have a deleterious impact on the liner
14 once it's in place? A whole range of operating practices
15 that are necessary to confirm that the facility will not
16 have an impact on the public health or environment.

17 Q. Paragraph B.(1).(f), "A contingency plan for
18 reporting and cleanup of spills or releases..." Did you
19 see a plan in the Application submitted by Gandy Marley to
20 the Division?

21 A. I think there might have been a paragraph.
22 Actually, the only thing I see here is the hydrogen sulfide
23 contingency plan, when referencing GMI 5.

24 Q. Let me direct you to paragraph -- I guess Roman
25 numeral VIII.

1 A. Yes.

2 Q. Now, they do have a para- -- three or four
3 sentences there, correct?

4 A. My Roman numeral VIII has one sentence. Are you
5 in the Application?

6 Q. I'm looking at the Application dated 4-8-05.

7 A. Yes.

8 Q. Are you with me in paragraph or Roman numeral
9 VIII?

10 A. I'm sorry, now I am.

11 Q. Okay, you've reviewed that?

12 A. Yes.

13 Q. As an engineer, does that provide you any comfort
14 that there's a contingency plan in place for reporting and
15 cleanup of spills or releases?

16 A. No, that doesn't really get there.

17 Q. What would you look for?

18 A. You would look for specific protocol, you would
19 look for emergency contact information, you would nominate
20 an emergency coordinator, you would identify the list of
21 equipment and location of equipment, you may even have an
22 evacuation plan. They're very standard components of a
23 contingency plan to address potential emergencies, what
24 type of fire-control equipment you might have, what are
25 your notification requirements with regard to these

1 emergency-response authorities and/or regulatory agencies?

2 Q. Paragraph B.(1).(g), "A routine inspection and
3 maintenance plan to ensure permit compliance..." There's a
4 paragraph on that in this Application as well, correct?

5 A. Yes.

6 Q. Okay. It makes a number of statements in here.
7 As an engineer, does this paragraph provide you comfort in
8 terms having a routine inspection and maintenance plan that
9 will ensure permit compliance in place?

10 A. No.

11 Q. What types of stuff would you -- what types of
12 information would you want to see?

13 A. Well, you would like to see a schedule for
14 inspections. Typically that's daily. You'd like to see a
15 list of the elements that are going to be inspected. You
16 might want to see some kind of a maintenance plan for not
17 only equipment but some of your environmental monitoring or
18 environmental control systems, your leachate collection,
19 your monitoring wells, et cetera.

20 So you would want a very specific program,
21 because you're going to hand off this inspection to an
22 employee or train the employee using this plan, and this
23 doesn't cut it.

24 Q. Subparagraph (h) talks about "A Hydrogen Sulfide
25 Prevention and Contingency Plan to protect public

1 health..." Is there -- Is there a plan as part of this
2 Application that was filed by Gandy Marley that indicates
3 how -- what's going to be done and what steps are going to
4 be taken to protect public health?

5 A. No. There is two sentences that don't address
6 the requirement.

7 Q. Well, don't address it in what sense? What are
8 you talking about?

9 A. Well, it's like much of the Application. The
10 Application cites a requirement and the Applicant does arm-
11 waving and says, We'll comply with that requirement, and
12 does not go on to describe how.

13 Q. Well, how would you -- what -- as an engineer and
14 as a -- as part of your best management practices, what
15 kind of a plan would you expect to see?

16 A. It's basically lacking in detail. They go on to
17 -- The first sentence basically comes out and says there's
18 going to be hydrogen sulfide, and then there's -- the
19 reader is left hanging as to how we're going to deal with
20 that, other than to again cite some other section of an OCD
21 rule.

22 Q. We touched on this briefly, but I want to get
23 back to it. Subparagraph (i) in Rule 711 indicates a
24 closure plan, including a cost estimate sufficient to close
25 the facility to protect the public health and environment.

1 You have seen their description of a closure plan in this
2 Application?

3 A. Yes.

4 Q. And you've also heard some testimony at the
5 hearing about statements about what else they might do as
6 part of a closure plan?

7 A. Yes, that -- there's been testimony beyond what
8 was filed in any of the prehearing documents.

9 Q. Okay. What aspects of a closure plan and cost
10 estimate sufficient to close the facility to protect the
11 public health and the environment have you not seen
12 addressed, either by way of this Application or by this
13 effort to supplement their Application?

14 A. Well, one of the problems in responding to that
15 question is, again, the fact that there's insufficient
16 data. You'd like to know what the grades on the top cap
17 are going to be, so you could ensure that the runoff would
18 be properly managed.

19 There has been testimony discussion about sort of
20 a rolling closure, and I am somewhat confused about how
21 that's supposed to work.

22 There's been testimony that one end of the cell
23 will remain open as we fill the rest of it, which again
24 leaves me confused about how are we going to manage the
25 contaminated water that's on the floor of the pit?

1 So there are a number of things that aren't
2 there, like the design of the cap, the specifications for
3 the cap, the type of seed, how we're going to promote the
4 seeding of the material, et cetera.

5 And implementation requirements. What equipment
6 are we going to use? What kind of a sequence, how long is
7 it going to take us to do this. And a lot of it I'm
8 confused as to how that's going to happen on a rolling
9 basis, because none of the sequence is illustrated on any
10 of the submissions.

11 Q. Now, Dr. Neeper talked yesterday about the legacy
12 that these landfills give to our children and our
13 grandchildren. Does the closure plan at all address this
14 legacy issue?

15 A. No.

16 Q. What types of information would you as an
17 engineer and as part of good management practices, would
18 you expect to see in an application that's going to provide
19 a closure plan sufficient to protect the public health and
20 the environment?

21 A. Probably the single biggest omitted item is any
22 consideration for post-closure care and monitoring that --
23 Are we to assume that because we've closed the gates that
24 we will cease monitoring the groundwater wells? Will we
25 not have to go out to the site and grade the cover? Will

1 we not have to go out and make sure the fences and drainage
2 systems are intact? There's zero discussion regarding how
3 we're going to manage that facility when we cease taking
4 waste.

5 Q. There's also a statement in subparagraph (i) that
6 the cost estimate is "...to be based upon the use of
7 equipment normally available to a third party
8 contractor..." Do you see anything in the Application that
9 would address that aspect of this closure plan and cost-
10 estimate requirement?

11 A. I believe that they obtained a quote, and I don't
12 remember the details. It was on the order of \$82,000 to
13 \$83,000, and whether that was a contractor's quote I don't
14 recall.

15 Q. Okay. You don't recall what that was for?

16 A. No.

17 Q. Is that the only thing you've seen?

18 A. Yes, in terms of a cost estimate, yes.

19 Q. All right.

20 A. And then actually, in my understanding it applied
21 to the closing of the landfarm and not the closing of the
22 landfill.

23 Q. That's different -- closing a landfarm is
24 different in your mind from closing a landfill?

25 A. Very different.

1 Q. What did the -- when you're closing -- Have you
2 had experience with closing landfills, as an engineer?

3 A. Yes, we're actively involved in closing 10 mixed-
4 waste sites across the state right now.

5 Q. And have you therefore had exposure to the costs
6 that are involved when you close landfills, particularly
7 landfills like this that are going to accept dangerous
8 wastes?

9 A. Yes, typically we see what we call closure cost
10 estimates that are in excess of \$2 million.

11 Q. Now, paragraph -- subparagraph (j) talks about
12 the submission of geological and hydrological evidence, and
13 I think you've testified that -- we've testified -- or
14 we've talked a little bit about this during the hearing,
15 and it's -- the Rule says you're to provide geological and
16 hydrological "...evidence, including depth to and quality
17 of groundwater beneath the site, demonstrating that
18 disposal of oilfield wastes will not adversely impact fresh
19 water..." Do you see that?

20 A. Yes, sir.

21 Q. Okay. Now, are you familiar with the definition
22 of fresh water that's used by the Oil Conservation
23 Division?

24 A. I was just looking it up. Is that okay?

25 Q. Yeah.

1 A. I remember that the threshold was 10,000 parts
2 per million total dissolved solids, that anything less than
3 that was deemed to be a protectible resource, and I believe
4 that the language with regard to the yield is extremely
5 vague.

6 Q. Well, now let me ask you then, with respect to
7 the threshold, we've had -- you've heard evidence that the
8 threshold of this -- the TDS in this water is less than
9 10,000 parts -- total dissolved solids, right?

10 A. Yes.

11 Q. Okay. So this groundwater meets that
12 requirement?

13 A. It meets the water quality standard for
14 protection, yes.

15 Q. You've also heard testimony during this hearing
16 that Gandy Marley doesn't feel that this groundwater is
17 worth protecting because it's not useful for their cattle.
18 Have you heard that?

19 A. Yes.

20 Q. Okay. As an engineer and dealing with landfill
21 issues and closure plans, et cetera, is the description of
22 the perched aquifer that you've heard about here during
23 this hearing -- is that water the type of water that will
24 have a -- could have a reasonably foreseeable beneficial
25 use, or is it the type of water that should be protected?

1 A. Yes, it is.

2 MR. DOMENICI: I would object to lack of
3 foundation.

4 Q. (By Mr. Feldewert) And why do you say that?

5 MR. DOMENICI: Well, I'm making an objection.
6 There's nothing -- there's no foundation for that. As an
7 engineer he can testify to anything.

8 MR. APODACA: Why don't you lay a foundation for
9 your question?

10 Q. (By Mr. Feldewert) Sure. Have you had -- Are
11 you aware of the groundwater quality control standards for
12 protected groundwater?

13 A. Yes.

14 Q. And have you had experience with when the State
15 of New Mexico has determined when groundwater is
16 protectible and when it's not protectible?

17 A. Yes.

18 Q. And specifically, what experience have you had?

19 A. We did a two-week pump test, a more substantial
20 one than described in the permit application, for the
21 disposal facility in Raton, New Mexico, and determined that
22 the TDS were over 8000 but less than 10,000 and that the
23 yield was 43 gallons per day. And we were told that that
24 yield was more than sufficient to be --

25 MR. DOMENICI: I'm going to object. He says "we

1 were told". I don't think -- I don't know what agency he
2 was told by, so before he finishes I'd like to know what
3 agency he's referring to.

4 MR. FELDEWERT: That's fair, we don't want any
5 hearsay here.

6 MR. APODACA: Right.

7 Q. (By Mr. Feldewert) Were you required by a New
8 Mexico agency to undertake protections to protect that
9 groundwater that had TDS of over 8000 and a yield of only
10 43 gallons per day?

11 A. Yes.

12 MR. DOMENICI: Same objection, we're going into
13 standards of other agencies, which is what we've already
14 had a ruling we're not going to do.

15 MR. FELDEWERT: I am not aware -- I am not aware,
16 Mr. Examiner, that there are varying standards of what is
17 protectible water across the State of New Mexico. There is
18 one standard as to what is protectible water across the
19 State of New Mexico. It does not vary from agency to
20 agency unless there's something unique about the Oil
21 Conservation Division that I'm not aware of.

22 MR. APODACA: I think Mr. Domenici's objection is
23 a hearsay objection, so --

24 MR. DOMENICI: Well, it's hearsay, but since we
25 don't know the agency -- I'm certain it's not OCD.

1 MR. APODACA: Well, I think you need to establish
2 how he's come into contact with this information and
3 provide something more than "they say" or "they told me",
4 and then we can proceed on that basis to determine whether
5 or not it's the single standard we're all governed by or
6 whether it's one for a particular agency.

7 Q. (By Mr. Feldewert) The facility that you were
8 talking about, was that a landfill?

9 A. Yes.

10 Q. And it was governed by the New Mexico Environment
11 Department Rules and Regulations?

12 A. Yes.

13 Q. Was it governed by the Groundwater Quality
14 Control Commission standards?

15 A. Yes.

16 Q. And did the -- What was the agency that had
17 oversight over that facility?

18 A. It was the Solid Waste Bureau in coordination
19 with the Groundwater Quality Bureau.

20 Q. So two agencies, two state agencies?

21 A. Yes, both -- two bureaus.

22 Q. Okay. And did those bureaus require that you
23 undertake protection of this groundwater that had TDS over
24 8000 and a yield of 43 gallons per day.

25 MR. DOMENICI: Same objection.

1 MR. APODACA: Mr. Feldewert, yesterday we heard
2 objections from you with regard to looking at sites --
3 looking at the CRI site, which Mr. Domenici attempted to
4 get into. Now we're going to get into sites that NMED
5 regulates? Please explain how this is consistent or
6 inconsistent with our previous rulings.

7 MR. FELDEWERT: I asked the question of the
8 witness as whether he was familiar with the groundwater
9 standards in New Mexico. He said yes.

10 MR. APODACA: Okay.

11 MR. FELDEWERT: I then asked him -- the next
12 question was, was this water that is encountered here in
13 the first aquifer protected? And they objected on the
14 grounds that he didn't have the qualifications to answer
15 that question. So as a result I'm going into the basis for
16 his qualifications. I didn't invite that question, they
17 did.

18 And I'm doing it solely for purposes of providing
19 a background for him to be able to render an opinion based
20 on his experience in dealing with these -- with the New
21 Mexico agencies, in dealing with the regulatory -- with the
22 regulation of groundwater as to whether this protectible
23 groundwater. They keep saying it's not.

24 MR. APODACA: Mr. Domenici, I think he needs to
25 be allowed opportunity to lay his foundation, and then

1 we'll consider your objection.

2 MR. DOMENICI: Well, he was going past that, he
3 was asking for the opinion of this witness.

4 MR. APODACA: Well, just concentrate on your
5 foundation.

6 Q. (By Mr. Feldewert) Mr. Gordon, how long have you
7 operated -- or how much experience do you have in dealing
8 with groundwater issues in the State of New Mexico?

9 A. Seventeen years.

10 Q. And in the course of that 17 years of experience,
11 have you been required to make determinations as to whether
12 groundwater is protectible or is not protectible under the
13 applicable rules and regulations?

14 A. Yes.

15 Q. And have you been here present for the testimony
16 in this hearing concerning both the TDS of this -- of the
17 groundwater below the Gandy Marley facility and the yield
18 of that groundwater below the Gandy Marley facility?

19 A. Yes.

20 Q. Based on your experience -- based on the
21 experience that you've just outlined, do you have an
22 opinion as to whether that groundwater is protectible --

23 MR. DOMENICI: Same objection --

24 Q. (By Mr. Feldewert) -- under applicable rules and
25 regulations?

1 MR. DOMENICI: -- he's using to qualify the
2 witness as evidence that we've already excluded. That's --
3 these are -- this is standards and decisions of other
4 agencies that are the only basis for him to give an
5 opinion. So he shouldn't be able to give an opinion and
6 basically bring this other evidence in when it's not
7 admissible. An expert can't rely on inadmissible, excluded
8 evidence.

9 MR. FELDEWERT: I would object to that.

10 (Off the record)

11 MR. APODACA: Mr. Domenici and Mr. Feldewert, I
12 believe that Mr. Domenici has a valid objection with
13 respect to trying to somehow qualify this witness with
14 respect to NMED rules. I would urge you to qualify this
15 witness's expertise with respect to OCD's Rules. After
16 you've done that, then you may ask the witness for an
17 opinion.

18 Q. (By Mr. Feldewert) You have outlined here today
19 your experience in groundwater issues, correct, Mr. Gordon?

20 A. Yes.

21 Q. All right. And based on that experience, have
22 you had an opportunity -- have you had an opportunity --
23 Well, let me back up. Strike that.

24 Based on your experience, have you been required
25 to make determinations as to whether groundwater has a

1 reasonably foreseeable beneficial use?

2 A. Yes.

3 Q. And you've been present today for the testimony
4 concerning the quality of the groundwater and the yield
5 below the Gandy Marley facility?

6 A. Yes.

7 Q. Based on your experience here in the State of New
8 Mexico, would that groundwater, based on quality and yield,
9 have a reasonably foreseeable beneficial use?

10 MR. DOMENICI: Objection, he didn't qualify him,
11 he just asked him the same question. He didn't show any
12 familiarity with OCD, and his experience he's referring to
13 is not OCD.

14 (Off the record)

15 MR. APODACA: Mr. Feldewert, when you were asking
16 the witness for his opinion, are you basing this on what
17 regulatory standard? I think that's the question we need
18 to ask of this witness. Is he looking at other OCD cases,
19 other OCD guidelines? I think that's the basis of Mr.
20 Domenici's question. Would you examine the witness about
21 the basis for his opinion before we have his opinion
22 presented? Can you do that?

23 MR. FELDEWERT: Well, I see -- Are you confining
24 me to experience with the OCD facilities?

25 MR. APODACA: I'm trying to assure that in having

1 the witness testify with an opinion, that that opinion is
2 based on the OCD regulatory and guideline structure. I am
3 sensitive to our previous ruling that we are not attempting
4 to apply NMED rules and structure.

5 So if you would please make clear on what
6 structure the witness is testifying, then I think we can
7 address Mr. Domenici's objections.

8 Q. (By Mr. Feldewert) Are you familiar with the
9 definition of fresh water that is contained within the
10 Rules of the Oil Conservation Division, Mr. Gordon?

11 A. Yes.

12 Q. Is that -- To your knowledge, is that definition
13 any different from any other state regulatory agency here
14 in the State of New Mexico?

15 A. The numerical standards are the same. The text
16 description may be a little different. For instance the
17 groundwater Quality Control Commission definition is not
18 identical.

19 Q. What aspect of the Oil Conservation Division
20 definition is -- do you consider to be not identical with
21 the Water Quality Control Commission?

22 A. The discussion of yield.

23 Q. And does the regulations of the Oil Conservation
24 Division describe any particular yield that is required to
25 qualify as fresh water?

1 A. No.

2 Q. And is it your understanding that the Water
3 Quality Control Commission uses a certain yield to help
4 define a reasonably beneficial future use?

5 A. Yes.

6 Q. And based on your understanding of the oil and
7 gas division regulations, is it your opinion that this
8 groundwater below the Gandy Marley facility would be
9 classified as protectible fresh water?

10 A. Yes.

11 MR. DOMENICI: I'm going to object. There's
12 still no foundation as to how he could draw this opinion.

13 MR. APODACA: Mr. Domenici, we're going to
14 overrule your objection. You may cross-examine the witness
15 on these issues at the appropriate time.

16 Q. (By Mr. Feldewert) Now, if we can continue on
17 down the line here, in Rule 711.B.(1) -- I think we're on
18 (k), there's no engineering issues there, right?

19 A. Correct.

20 Q. And then there's the requirement of (l), there's
21 no engineering issues there, correct?

22 A. Correct.

23 Q. And then there's a requirement in (m) that says
24 "Such other information as is necessary to demonstrate that
25 the operation of the facility will not adversely..."

1 protect "...the public health or the environment..."

2 Are there -- Is there anything about this
3 Application, Mr. Gordon, that would cause you to -- concern
4 about whether we have information that is necessary to
5 demonstrate that the operation of the facility will not
6 adversely protect the public health or the environment?

7 A. The information provided is grossly inadequate to
8 make that type of a technical evaluation.

9 Q. What types of information would help answer that
10 -- the question that is posed by subparagraph (m)?

11 A. The types of information would fall in a number
12 of different categories that range from site
13 characterization to design to operational planning to
14 closure and post-closure care.

15 Q. If I could have you look at Exhibit -- CRI
16 Exhibit Number 11 --

17 A. Yes, sir.

18 Q. -- you list there in -- under "Siting" various
19 provisions. Do you see that?

20 A. I do.

21 Q. Are these the types of -- is this the type of
22 information that you would expect an application to
23 demonstrate in order to meet the -- at least the implied
24 obligation in subparagraph (m)?

25 A. Yes, and the Application is virtually silent on

1 all of them except two.

2 Q. Which two does it address?

3 A. There is at least language talking about
4 floodplain, though it is not sufficient for a technical
5 evaluation. And due to subsequent submissions since the
6 original filing, I think we finally have some clues as to
7 depth to groundwater.

8 Q. And with respect to the remaining items that are
9 identified under "Siting", there's no information in the
10 Application?

11 A. There is information on -- some land-use
12 information and some well-setback information.

13 Q. What do they have about threatened or endangered
14 species?

15 A. Nothing.

16 Q. What about seismic impact zones?

17 A. Nothing.

18 Q. What about active alluvial fans?

19 A. It's not addressed.

20 Q. Oh, now I'm not going to be able to pronounce
21 that. What about the one that's marked 2.6? What is that?

22 A. Holocene faults. Those are -- Our geologist will
23 address that. We address it from a -- how we design the
24 facility if we're in a fault-prone zone. A Holocene fault
25 is one that occurred -- or one that was active in the last

1 6000 years or something like that.

2 Q. Does it address historically or archaeologically
3 -- well, let's strike that.

4 Give me one second here.

5 Mr. Gordon, with your experience in the State of
6 New Mexico, and based on the qualifications that you have
7 outlined earlier and which are contained in your résumé, do
8 you have an opinion as to whether this Application -- Let's
9 do it in two parts. Do you have an opinion as to whether
10 the Application that was filed by Gandy Marley was
11 sufficient to make any reasonable determination as to
12 whether this facility can be operated without adversely
13 impacting the public health or the environment?

14 A. Yes, I do have an opinion.

15 Q. And what is that opinion?

16 A. That the Application is inadequate to make that
17 evaluation.

18 Q. And with respect to the supplementation that has
19 been provided at this hearing, has your opinion changed?

20 A. Slightly. They have filled in some of the gaps.
21 They've been very busy filling in some of the gaps in the
22 last couple of weeks.

23 Q. Does the -- in your opinion, is there -- is there
24 information at this point in time to determine -- with the
25 supplementation, to determine whether this facility can --

1 will be -- can be operated without adversely impacting the
2 public health or the environment?

3 A. No.

4 MR. FELDEWERT: That concludes my examination of
5 this witness.

6 EXAMINER JONES: Mr. Domenici?

7 CROSS-EXAMINATION

8 BY MR. DOMENICI:

9 Q. Let's start with the water question. What is the
10 WQCC yield quantity that establishes reasonably foreseeable
11 beneficial use?

12 A. Per their policy or their written definitions?

13 Q. When you testified.

14 A. Okay, per their policy, it is less than 43
15 gallons per day. And in fact, it appears to be settling in
16 on 14.4 gallons per day.

17 Q. And when you say policy, is that a published
18 policy?

19 A. No.

20 Q. How many well -- or how many water projects have
21 you developed that use 43 gallons a day?

22 A. I don't develop water projects.

23 Q. How many are you aware of, of a well that uses a
24 water source that provides 43 gallons per day?

25 A. Well, first of all, it's not my standard. It

1 is --

2 Q. I didn't ask you if it was your standard --

3 A. Right --

4 Q. -- I asked you how many --

5 A. -- okay, how many? If I were to review and
6 remember reviewing the same document that WQCC used to make
7 that determination, they cited several examples.

8 Q. So you don't have any personal involvement of
9 ever witnessing or being aware personally of development of
10 a water source that yields 43 gallons per day, correct?

11 A. Well, yes, one in Raton.

12 Q. What are they using that water for?

13 A. Dust control.

14 Q. Now, are you familiar with any projects on
15 ranches in the caprock, or any water wells in ranches on
16 the caprock, that produce -- where the wells produce less
17 than 200 gallons per day that are in use for livestock
18 production

19 A. No, I'm not aware of any.

20 Q. And are you familiar with the production from the
21 CRI -- the yield from the CRI pump tests that were
22 presented as part of their Application?

23 MR. FELDEWERT: I object to this line of
24 questioning based on the previous ruling by the Examiner.

25 MR. DOMENICI: This is part of cross-examination.

1 You said I could cross-examine, and this is an OCD case,
2 there's an OCD decision. If he's allowed to use other
3 agencies, he certainly should be able to use this agency.

4 MR. APODACA: Why are you inquiring about the CRI
5 pump test?

6 MR. DOMENICI: There's a specific finding by this
7 Division based on yield, which is much more relevant than
8 an unwritten policy that he's testified to.

9 MR. FELDEWERT: I object to the relevancy, both
10 in terms of the facility, which is miles away from this
11 area, and also in terms of the time period that was
12 involved. CRI's facility was approved by the Division by
13 order entered in 1990.

14 MR. DOMENICI: If I could respond, he's using a
15 Raton proposal under a set of unwritten guidelines. This
16 is directly relevant. It's the same kind of facility and
17 the same geology.

18 MR. APODACA: You didn't object to the Raton
19 proposal, Mr. Domenici.

20 MR. DOMENICI: Pardon me?

21 MR. APODACA: You didn't object to the Raton
22 proposal when it came in.

23 MR. DOMENICI: The Raton proposal?

24 MR. APODACA: What are you referring to --

25 MR. DOMENICI: No, he's testified about what he

1 -- you allowed him to testify.

2 MR. APODACA: Yes.

3 MR. DOMENICI: That's halfway across the state,
4 that's not even comparable. And I can't introduce one
5 under these regs and this same geology? You've allowed him
6 to talk about all this hearsay on other sites --

7 MR. APODACA: Just a moment, Mr. Domenici.

8 (Off the record)

9 MR. APODACA: Ms. MacQuesten, do you have a
10 position with respect to the objection raised by Mr.
11 Feldewert?

12 MS. MacQUESTEN: Well, it does seem we've heard
13 about another facility from another agency and taken
14 evidence on what they would find to be acceptable. And as
15 a participant here, I would be more interested in what the
16 OCD had to say about a facility regulated under OCD Rules.

17 MR. APODACA: Thank you. In light of the fact
18 that we did allow Mr. Feldewert to present testimony with
19 respect to WQCC and we gave you an opportunity to cross-
20 examine and you are exploring the issue of yield approved
21 by OCD, we will allow you, for the limited purpose of
22 getting to the yield issue only, to deal with the CRI --

23 MR. FELDEWERT: Let me -- and the only thing I
24 want to say for the record is, I was not allowed to ask the
25 witness about the WQCC standards. They asked the witness

1 about the WQCC standards. I was required to ask the
2 witness his opinion based on the OCD Rules and Regulations.
3 I did not ask him about WQCC standards, nor did I ask him
4 about Raton. I was prevented from doing that.

5 He just in cross-examination first asked him
6 about WQCC standards, then he asked him about the Raton
7 site. So he went into that line of questioning; I was
8 prevented from doing that.

9 So for him to now say that the fact that he went
10 into it, he's now allowed to go beyond your objection,
11 seems odd to me. But we will live by your decision.

12 (Off the record)

13 MR. APODACA: In fairness, Mr. Feldewert, if you
14 want to redirect on these areas that Mr. Domenici is
15 inquiring about on the yield issue, only that, you may have
16 an opportunity to do it.

17 MR. FELDEWERT: Thank you.

18 Q. (By Mr. Domenici) Okay, Mr. Gordon, as I
19 understand, and I want to be clear, your understanding and
20 the basis for your opinion that the yield at this location
21 is a reasonably foreseeable beneficial use under OCD
22 regulations is your experience with the WQCC?

23 A. Yes.

24 Q. And WQCC has a policy, as you described it, of 43
25 gallons yield, correct?

1 A. Less than.

2 Q. Less than. And that is -- so is it correct that
3 the WQCC and the agencies that implement that, the
4 Groundwater Bureau, they don't look at site-specific
5 issues; they have a policy that applies to every yield at
6 every location, as far as you know?

7 A. I'm sorry, I don't understand the question.

8 Q. Okay. Well, when you made your opinion, you
9 relied upon a policy that you're aware of, this unwritten
10 policy, and that policy applies to any location; is that
11 not --

12 A. Yes, yes.

13 Q. So that any well, regardless of who's in the
14 area, what their use is, what the activity is, if it's
15 under 43 it's not enough yield, if it's over 43 it is, as
16 far as you know?

17 A. Right.

18 Q. And that's the basis, the complete basis for your
19 testimony, that this location under OCD Rules is a
20 reasonably foreseeable beneficial use, correct?

21 A. Yes.

22 Q. Do you know if OCD has a policy that they apply
23 uniformly at every location like the WQCC?

24 A. No.

25 Q. You don't know, or they don't have one?

1 A. No, I don't know.

2 Q. Have you tried to find out if they have a policy
3 like the WQCC policy?

4 A. I've reviewed their regulations pertinent to this
5 case and have found nothing to that effect.

6 Q. So as far as you know, you have nothing to
7 contradict that they make a site-specific determination as
8 to whether there's beneficial use -- reasonably foreseeable
9 beneficial use?

10 A. Well, that would conflict with my understanding
11 of the protection of the groundwaters of the State of New
12 Mexico, but if you believe that to be true I will accept
13 that.

14 Q. Okay, let me ask it this way. You don't have any
15 evidence to contradict that they make a site-specific
16 analysis, as opposed to using a standard policy?

17 A. No, but if it's different from what the people in
18 charge of the groundwater are doing, then that is a
19 problem.

20 Q. I'm just trying to get to your knowledge of how
21 they do business --

22 A. Uh-huh.

23 Q. -- because the way you do it, or the way you've
24 testified in your opinion, it wouldn't matter where the
25 water source is and what the possible uses are; it's just a

1 yield calculation reviewed against a standard; I think
2 you've testified to that?

3 A. Yes, and the assumption is that at some future
4 date that we may have treatment technologies or extraction
5 technologies that would make that water suitable for the
6 purposes in the local area.

7 Q. In any local area?

8 A. Yes.

9 Q. Even the oilfield?

10 A. Yes.

11 Q. Even ranches?

12 A. Yes.

13 Q. And that's not your understanding of how OCD
14 operates, is it? Or do you know?

15 A. I don't know.

16 Q. As far as you know, OCD doesn't have that -- or
17 do you have any evidence that OCD has that same assumption
18 that you just described?

19 A. Well, it would surprise me if they weren't
20 communicating with the groundwater quality bureau.

21 Q. Well, in fact, the RCRA exemption of oilfield
22 waste, is not classified as hazardous waste, is an
23 indication that there's some special treatment of oilfield
24 activities in the regulatory world?

25 A. I don't believe that would include contaminating

1 groundwater resources.

2 Q. It would include that you don't have to -- that a
3 waste management company doesn't have to get a RCRA permit
4 for oilfield waste?

5 A. I don't see the analogy.

6 Q. So as far as your testimony, all of your
7 testimony today, you are not treating OCD and its mission
8 any differently from the New Mexico Environment Department
9 in your experience, which is primarily with the Environment
10 Department, correct?

11 A. No.

12 Q. What are the differences as far as OCD's mission,
13 as embodied in the Oil and Gas Act and the -- Rule 711, you
14 can identify, that differ from NMED, that you operate on?

15 MR. FELDEWERT: I think I'm going to have to
16 object to that question. This witness isn't being offered
17 to determine or opine -- and was not offered to opine on
18 the mission of the Oil Conservation Division.

19 MR. DOMENICI: I'll rephrase the question.

20 MR. APODACA: Please.

21 Q. (By Mr. Domenici) You've testified as an
22 engineer. Many -- almost every question was to you as an
23 engineer. Do you recall that?

24 A. Yes.

25 Q. And as an engineer answering those questions, you

1 didn't draw any distinction between oilfield activities and
2 non-oilfield activities, did you?

3 A. Yes.

4 Q. What distinction did you draw?

5 A. Well, the obvious distinction is that those
6 material -- the RCRA exemption means that these facilities
7 that we're talking about -- and I believe this is the first
8 time OCD is getting into landfills -- that these facilities
9 are not regulated under RCRA, that the mission of OCD is a
10 broad one that relates to those oil and gas resources so
11 that they're not squandered.

12 Q. And based on that understanding, do you have an
13 understanding that OCD would define reasonably foreseeable
14 beneficial use different than the Water Quality Control
15 Commission, or not?

16 A. I find it hard to believe that somebody would
17 usurp the authority of the groundwater Quality Commission
18 to come up with their own standard on a site-specific basis
19 and that we would have standards all over the state, of all
20 different descriptions.

21 Q. Rather you think -- Well, let me just say this.
22 The policy you described has not gone out for rulemaking,
23 correct?

24 A. Correct.

25 Q. It hasn't been adopted by the Water Quality

1 Control Commission?

2 A. It's been applied in two -- at least two
3 instances that I'm aware of.

4 Q. So it's been applied twice. That's all you're
5 aware of, as far as making this statement?

6 A. Well, it's not all I'm aware of, but --

7 Q. -- that's all you're prepared to testify to, as
8 far as what you personally know about the policy
9 application?

10 A. Yes.

11 Q. Let's look at -- let me hand you -- if you can
12 look at Exhibit 27 in front of you.

13 A. I have 26 and 28.

14 Q. Let me hand you another copy of 27, you can look
15 at it. This is Gandy Marley's tendered Exhibit 27, for the
16 record, that was not admitted.

17 MR. APODACA: This is the offer of proof?

18 MR. DOMENICI: This -- this is the one I made an
19 offer of proof on. I'm going to ask -- Based on your
20 ruling, I'm going to ask Mr. Gordon to review the yield
21 information in this document. You limited it to yield
22 only.

23 MR. APODACA: Right.

24 MR. FELDEWERT: I'm going to object. The
25 Examiner has already made a ruling on the applicability of

1 this determination by the Division and this document to
2 these proceedings, and that was that it's not relevant.
3 This document is dated February of 1990. That is 15 years
4 ago. The determination was made by the Division 15 years
5 ago, was under a different regulatory scheme than what we
6 have now.

7 I don't see how getting into the nuances of this
8 document or getting into that determination back in 1990
9 has any bearing on the issue that is before the Division
10 today, under this regulatory scheme, for this site. So I
11 would renew my objection to the use of this exhibit or the
12 examination of this witness based on this exhibit.

13 MR. DOMENICI: This is -- You've already ruled on
14 this, that I could ask him about the yield at the CRI
15 facility. This is the hydrogeologic data that shows the
16 yield, and I have the permit issued by OCD. So the fact
17 that it was excluded *in toto* I don't think overcomes your
18 recent ruling that I could cross-examine him about the
19 yield at this location. That's all I'm offering it for.

20 MR. APODACA: You are not admitting -- or seeking
21 to admit this exhibit, are you?

22 MR. DOMENICI: No, I'm not.

23 MR. APODACA: As long as Gandy Marley does not
24 seek to admit that exhibit, we'll let the examination
25 proceed.

1 Q. (By Mr. Domenici) If you will look on -- of
2 Exhibit 27, will you please look on page 3, page number 3?

3 MR. APODACA: Mr. Domenici, do you have an
4 additional copy of that. I don't want to take your only
5 copy.

6 MR. DOMENICI: No, I have --

7 MR. APODACA: Thank you.

8 Q. (By Mr. Domenici) The top of page 3, is there
9 with respect to test hole number 5?

10 A. There is a short-term yield test, yes.

11 Q. And it indicates that that bailing test produced
12 two gallons of water in 15 minutes, or .13 gallons per
13 minute. Do you see that?

14 A. For a 15-minute test, yes.

15 Q. And if you converted that to daily production,
16 that would be 187 gallons, correct?

17 A. I think it would be quite an extrapolation to
18 take a 15-minute test and turn it into gallons per day, but
19 that would be the mathematical result.

20 Q. And let me have you refer -- I think you said you
21 were familiar with the definition, the OCD definition. Do
22 you have that in front of you?

23 A. No, I don't.

24 Can I sneak out and grab some water?

25 MR. APODACA: Oh, of course.

1 THE WITNESS: Thank you.

2 Q. (By Mr. Domenici) Let me show you the OCD
3 definitions and the definition of fresh water. That's my
4 only copy, so I'm going to borrow that back and read it
5 into the record if I can.

6 A. Okay, no problem.

7 Q. Okay, this states that fresh water includes water
8 -- including surface water and all underground water
9 containing 10,000 milligrams per liter or less of TDS, and
10 I'm going to paraphrase here, and it says except for which
11 after notice and hearing it is found there is no present or
12 reasonably foreseeable beneficial use which would be
13 impaired by contamination of such waters.

14 I'll hand that back to you.

15 Okay, in looking at that, if you'll look back at
16 Exhibit 27, on page 3, and will you read the paragraph --
17 or the sentence that is right above "Quality"? It starts
18 with "Although..."

19 A. "Although..."

20 Q. Actually, there's two sentences above -- read
21 both of those --

22 A. Starting with --

23 Q. -- starting with --

24 MR. FELDEWERT: Wait a minute, wait a minute.
25 I'm going to object. If we want to exclude the exhibit

1 under the Examiner's ruling, I think it's improper to then
2 read a portion of the exhibit into the record, because --
3 essentially back-dooring the decision made by the Examiner.
4 So I think there's another way he can get to this.

5 Q. (By Mr. Domenici) Does this report indicate that
6 the geohydrologist at the time, James Wright, informed the
7 OCD that -- about the use -- site-specific use of other
8 ranches in the area of water through transmission lines
9 rather than groundwater --

10 A. Yes.

11 Q. -- beneath the site?

12 And does it also indicate that although there is
13 some groundwater in storage beneath the site, it's not
14 economically feasible to produce it because of the yield?

15 A. Well, I don't see him making a finding and, after
16 notice and hearing, trying to designate the water as
17 unprotectible.

18 Q. Okay. Did he indicate -- did he provide
19 evidence, as far as you can tell from here, as to the use
20 of that water, the specific use at that location?

21 A. I've never read this report, I don't know what
22 else is in it. If you're directing my attention solely to
23 this single paragraph --

24 Q. Yes.

25 A. -- yes.

1 Q. And let me show you -- Have you seen CRI's permit
2 that was issued in 1990?

3 A. No.

4 MR. FELDEWERT: Are you talking about the order?

5 MR. DOMENICI: Yes, which for the record is Case
6 Number 9882, it's Order R-9166.

7 MR. FELDEWERT: Do you have a copy?

8 MR. DOMENICI: I can give you a copy.

9 MR. FELDEWERT: I don't have one with me.

10 MR. DOMENICI: There's a copy, and I don't have
11 an extra one right now, but I'll provide one.

12 Q. (By Mr. Domenici) Let me ask you to look at
13 paragraph 10.G and ask if there was a finding by the -- or
14 an order entered by the OCD that there was no reasonably
15 foreseeable use of groundwater?

16 MR. FELDEWERT: Object to --

17 MR. DOMENICI: I'm paraphrasing that.

18 MR. FELDEWERT: I object to the characterization
19 of the order, and I object to asking this witness to review
20 an order he has not reviewed previously and offer an
21 opinion about what the order says. I think the order
22 speaks for itself.

23 MR. DOMENICI: Okay, I'll move admission of the
24 order then.

25 MR. FELDEWERT: It's a public --

1 MR. APODACA: It's a matter of public record. We
2 can take judicial notice of the order, Mr. Domenici.

3 MR. DOMENICI: I'd like you to do that.

4 MR. APODACA: We'll do that.

5 Q. (By Mr. Domenici) And let me ask the witness, do
6 -- is there, to your knowledge, in reviewing that quickly,
7 is there a specific finding regarding what we've been
8 discussing --

9 MR. FELDEWERT: Same objection.

10 Q. (By Mr. Domenici) -- reasonably foreseeable use?

11 MR. APODACA: We can review the order, it speaks
12 for itself. We'll sustain Mr. Feldewert's objection.

13 MR. DOMENICI: Well, I'd like to education the
14 witness on something that -- judicial notice, I can ask him
15 some questions.

16 MR. APODACA: Mr. Feldewert?

17 MR. FELDEWERT: I don't mind if he directs him to
18 a paragraph.

19 Q. (By Mr. Domenici) Paragraph 10.G. In reviewing
20 that, would you agree -- I know you've had limited
21 information -- would you agree that the OCD determined that
22 the wells beneath the CRI facility that have -- that
23 pumped, at least in this 15-minute pump test, 13 gallons
24 per minute, were not -- did not constitute a reasonably
25 foreseeable beneficial use?

1 MR. FELDEWERT: I object, that is a
2 mischaracterization of this order. This order does not say
3 that.

4 This order says in paragraph 10.G, There is no
5 present or reasonably foreseeable beneficial use of the
6 waters of Laguna -- Toston? T-o-s-t-o-n?

7 MR. APODACA: -- would have benefit of the order,
8 so we'll trust your pronunciation, Mr. Feldewert.

9 MR. FELDEWERT: So that -- that's a mischarac- --
10 I object to the form of the question, it's a
11 mischaracterization of the order.

12 Q. (By Mr. Domenici) Have you looked at any other
13 OCD files to determine if they have accepted site-specific
14 information regarding reasonably foreseeable beneficial
15 use?

16 A. No.

17 Q. Is there anything in the OCD regulation, in the
18 definition there, and Rule 711 and the guidelines, that
19 prohibits the Division from looking at -- from examining
20 site-specific information about reasonably foreseeable
21 beneficial use?

22 A. I would not be familiar with the universe of
23 documents that could potentially apply to that. But based
24 on those that I've reviewed -- I forget whether you need a
25 "yes" or a "no".

1 (Laughter)

2 MR. DOMENICI: I know what I need, but I don't
3 know --

4 THE WITNESS: Sorry.

5 MR. DOMENICI: -- I don't know which one it is.

6 Q. (By Mr. Domenici) There's nothing that you see
7 -- and I'll just limit it to Rule 711 and the guidelines --
8 that prohibits site-specific review by the Division to make
9 a determination of reasonably foreseeable beneficial use?

10 A. There's nothing that I've seen.

11 Q. And -- Well, let me move on.

12 Let's go through your Exhibit 11, if we could,
13 and your footnote number 1, at the bottom of that says,
14 "Requirements are implied in 711.B.1.m". And which --
15 which items would -- in the column "OCD 711", which items
16 are you identifying as implied by that footnoted item?

17 A. They would be most of those listed on 2.0,
18 "Siting", as well as a couple listed under 6.0,
19 "Operations/Plan".

20 Q. And let's -- let's move down the column. So
21 under 2.0, "Siting", you say sub- -- say 2.5 as an example,
22 you say "Subsurface Mine...", is implied, and then if you
23 move over, there's no guideline referenced. So that means
24 it's not addressed in the guidelines; is that correct?

25 A. Yes.

1 Q. So you're implying things in Rule 711 where they
2 are not specified in Rule 711, and they're not mentioned in
3 the guidelines?

4 A. I'm actually inferring, but yes.

5 Q. Okay. Well, you said "implied". What's the
6 deference between "implied" and "inferring"?

7 A. The reader infers and the document implies.

8 Q. Okay. So you inferred and then you put it down
9 in this document?

10 A. Yes.

11 Q. And then you've testified that all of these
12 footnoted items are essentially something you consider part
13 of the OCD Rule 711?

14 A. Yes.

15 Q. Have you attempted to confirm in any way that OCD
16 agrees with your inference?

17 A. How would I do that?

18 Q. By looking at other files.

19 A. It's my understanding that this is the first land
20 disposal facility that the OCD is considering permitting,
21 and therefore I fail to understand why that would be
22 productive.

23 Q. What's the basis for your understanding that this
24 is the first facility?

25 A. Well, aren't we talking about land disposal,

1 aren't we talking about facilities that at one time took
2 salt-contaminated material and they've been prohibited from
3 doing it, and they're trying to convert those two
4 facilities into disposal facilities?

5 Q. So you're saying this is the first modification
6 of a landfarm facility to have cells that serve as
7 landfills?

8 A. Yes.

9 Q. But there are landfill facilities that are
10 permitted by OCD?

11 A. That's my understanding.

12 Q. Have you reviewed any of those files?

13 A. No.

14 Q. Are you aware of whether the testimony you
15 provided today -- and I think many times that was as an
16 engineer -- are you aware whether your testimony as an
17 engineer is consistent with how the OCD has interpreted its
18 own regulations with respect to the three other facilities?

19 A. Do you mean have I memorized the transcripts of
20 all the hearings and reviewed every document ever submitted
21 and every report and every monitoring report? No, I have
22 not.

23 Q. Have you even looked at any other permits for any
24 of the other three facilities?

25 A. No.

1 Q. Have you looked at the application?

2 A. No.

3 Q. So I'm not asking if you did everything, but you
4 did nothing on the other three facilities, correct?

5 A. Did nothing. No, I did not.

6 Q. So your interpretations as an engineer mean that
7 you have not undertaken any research to see how the agency
8 that's doing the permitting has treated similar
9 applications on other facilities, correct?

10 A. No, that's not true.

11 Q. Okay, you have done no research on the other
12 three landfills permitted by OCD?

13 A. That's correct.

14 Q. Okay. But your -- and your testimony, quote, as
15 an engineer, unquote, does not include any review or
16 research of those facilities?

17 A. No, but the caveat is that I worked with Dr.
18 Turnbough on developing guidelines for the State Land
19 Office in conjunction with OCD for E-and-P activities on
20 state land --

21 Q. Okay.

22 A. -- and that gave me some working familiarity with
23 the regulations, the other facilities, et cetera. No, I
24 did not scour the permit applications or the transcripts.

25 Q. Okay. Well, let's look to your Exhibit 15, and

1 the top one -- I think these are in order of -- protection,
2 I guess, or how would you call this order of --

3 A. Ascending order of protection as you move down
4 the page.

5 Q. Okay, the top one, the "Mining Waste", that's a
6 permit under the Water Quality Control Commission, a
7 groundwater discharge permit?

8 A. I imagine there are other facilities out there,
9 but the one I'm familiar with is, yes.

10 Q. And the next one is a "Solid Waste" and it
11 appears "Special Waste" facility permitted by the Solid
12 Waste Bureau?

13 A. Well, these liners are used for a variety of
14 other purposes. That's one of the uses of this liner
15 configuration.

16 Q. Okay. And when you put to it "Solid Waste,
17 Special Waste", you mean a permit by the Solid Waste
18 Bureau?

19 A. No, this is really design-specific, not
20 regulatory-specific. This is what is being used for those
21 types of wastes and, as a corollary, have been approved by
22 NMED.

23 Q. Okay. Well, is it as a corollary, or is it to
24 satisfy NMED?

25 A. Well, I'd like to believe that engineers didn't

1 perform their designs solely for the function of meeting
2 the minimum regulatory requirements.

3 Q. Well, this isn't the way solid waste landfills
4 have always been done, is it?

5 A. No.

6 Q. And the regulations have evolved, and the
7 construction and design have changed to meet the
8 regulations?

9 A. No. Our technology has increased, our
10 understanding of these materials, geosynthetics, et cetera,
11 and I don't believe engineers design solely for the purpose
12 of meeting the regulatory requirement.

13 Q. Well, let me just ask it this way. The item on
14 top, to your knowledge, meets the requirements by the
15 Groundwater Bureau for a water -- a groundwater discharge
16 permit?

17 A. Yes, it does.

18 Q. For -- you said mining waste, I think you said
19 that was salt --

20 A. Yes, mining salt.

21 Q. -- at WIPP?

22 A. Correct.

23 Q. And that's regulated by the -- by the Groundwater
24 Bureau and the Water Quality Control Commission?

25 A. Yes.

1 Q. The next one is an example of a facility that
2 could meet the solid waste and special waste permitting
3 requirements of the Solid Waste Bureau of the New Mexico
4 Environment Department?

5 A. Well, I guess what I'm having trouble with is, we
6 use these designs for a number of other applications --

7 Q. Okay.

8 A. -- you know, oil pits and things like that.
9 There's all kinds of different uses.

10 Q. Okay. But my question is correct, essentially?
11 This would meet the requirements of the Solid Waste Bureau
12 for a solid waste/special waste permit?

13 A. Yes.

14 Q. And bottom one, I think you said, was comparable
15 or maybe came from Triassic, so this -- Is that correct?

16 A. It's comparable.

17 Q. So the bottom one would meet the requirements of
18 a hazardous waste facility regulated by the New Mexico
19 Environment Department?

20 A. Yes.

21 A. Now, if we moved up on top in ascending order, do
22 you know -- Well, let me ask it this way. Do you know
23 where the other three facilities that are permitted by OCD
24 fit, in terms of this ascending order?

25 A. No.

1 Q. If they didn't have a liner, they would be
2 higher?

3 A. Yes -- No.

4 Q. And if they didn't have a clay liner, they would
5 be higher?

6 A. Yes.

7 Q. Now, when you were discussing these liners, as I
8 understood your testimony, you were talking about
9 engineering options and engineering decisions that have
10 been made to utilize these different types of liners?

11 A. That are routinely used, yes.

12 Q. Now, do -- isn't it true that each one of the --
13 Well, let's start with the hazardous waste. Isn't it true
14 that the regulations specify liners?

15 A. Not to this degree of specificity.

16 Q. Do they specify them to a performance standard?

17 A. Yes.

18 Q. And isn't it true that solid waste facilities
19 specify performance standards?

20 A. As well as design standards.

21 Q. What if anything is a performance standard in
22 Rule 711?

23 A. Well, I assume you would try to derive that out
24 of the requirement to provide diagrams and details of what
25 you were doing, that you would be able to -- from that --

1 that you were meeting the performance standard.

2 Q. Well, I'm asking what is the standard?

3 A. The standard is something that apparently you
4 would prescribe in the CQA plan or the construction plans
5 that you provide to the OCD.

6 Q. Isn't the standard set forth in B.(1).(j), at
7 least with respect to subsurface groundwater -- the
8 standard is geological/hydrological evidence,
9 "...demonstrating that the disposal of oilfield wastes will
10 not adversely impact fresh water..."? That is -- Isn't
11 that the standard?

12 A. The standard for what?

13 Q. For performance of the cell and performance of
14 the facility?

15 A. That's more like a goal. I don't know how you
16 design to that standard. I think you would have to
17 establish quantitative criteria, for instance, to limit the
18 head on the liner, to achieve that goal. Otherwise, there
19 is no way to tie that to reality.

20 Q. And there are no quantitative standards in the --
21 as you've just described it, in Rule 711 or in the
22 guidelines?

23 A. Well, I infer that they want you to submit those
24 when you submit the required information in terms of the
25 construction plans and diagrams.

1 Q. Which is after your permit?

2 A. No, there's a conflict there. If you look at
3 711, it's supposed to go in the permit application, but
4 later on under the guidelines they want them before -- is
5 it before construction.

6 Q. After the permit is issued.

7 A. But you can't review the application without that
8 information, so in my mind the 711 citations take
9 precedence.

10 Q. Now, I'm going to try to speed this up a little
11 bit. You were asked a number of questions, and they were
12 all framed as an engineer in reviewing the Gandy Marley
13 Application. I want to be specific. And then later on in
14 the Application and everything as part of this hearing.

15 A. Okay.

16 Q. Okay? I want to break those two up.

17 When you -- you reviewed this Application -- Did
18 you review the Application before the hearing?

19 A. Yes.

20 Q. And you made conclusions before the hearing? I
21 think you testified that you -- could have been -- a little
22 bit more information in the hearing.

23 A. It certainly involved inclusions --

24 Q. But --

25 A. -- conclusions.

1 Q. But you had conclusions or opinions before the
2 hearing?

3 A. Yes.

4 Q. Were those opinions based on a review of the
5 permit that was issued in 1994, the modification issued in
6 1996 and the renewal issued in 1997?

7 A. To some extent.

8 Q. When did you first review the Gandy Marley 1994
9 permit and 1996 modification and 1997 renewal?

10 A. Approximately seven weeks ago.

11 Q. And when you reviewed the so-called Application,
12 did you consider that items that were not going to be
13 changed as part of the modification needed to be addressed
14 in the Application?

15 A. Did I -- I don't think I made that clear of a
16 differentiation as you have just stated it.

17 Q. When you looked at the Application, did you
18 notice on the front that it says, Is this a modification of
19 an existing facility?

20 A. Oh, yes.

21 Q. And you've done modifications for other
22 facilities?

23 A. Yes, sir.

24 Q. And there is a difference between a new
25 application and a modification?

1 A. Absolutely.

2 Q. And so when you made statements earlier that the
3 Application was inadequate in a number of areas, were you
4 being precise that the Application was inadequate with
5 respect to the items to be modified?

6 A. Absolutely, it's a major modification and a
7 drastic change to what's going on out there. And therefore
8 if what was previously approved was not applicable to the
9 new design and operation, then I assume OCD would be
10 looking for more data.

11 Q. And what did you understand as far as what the
12 modification would be, vis-a-vis what would remain the
13 same?

14 A. Well, you've been over this several times in
15 testimony, and we may differ on this. You felt that the
16 closure plan didn't have to be altered. I think that's a
17 gross misrepresentation. Yeah, okay, the footprint is the
18 same. But what we're doing with it is not the same, and
19 we're not even identifying where we're changing within that
20 footprint. That again seems to be a moving target in terms
21 of which cells are for salt, which cells are for
22 hydrocarbons, which cells are going to be landfilled?

23 So to me, when you start waving your arms like
24 that, then you'd better put some detail to it so OCD can
25 make an informed decision.

1 Q. Let me ask you, the H₂S prevention and
2 contingency plan, you testified that it was inadequate in
3 the Application?

4 A. Yes.

5 Q. Do you -- are you familiar with what the H₂S
6 sulfide -- or, I'm sorry, the H₂S prevention and
7 contingency plan is that has been approved for this
8 facility?

9 A. If it's that one sentence, I guess I am familiar
10 with it.

11 Q. And has it been approved?

12 A. I assume so.

13 Q. The facility is operating, it has been since
14 1994 --

15 A. With a one-sentence H₂S contingency plan.

16 Q. Okay, I'm trying to identify if you're
17 challenging previous approvals that my client has already
18 obtained from OCD as part of your testimony. It sounds
19 like you are; is that correct?

20 A. No.

21 Q. Okay, are the items that were subject to the H₂S
22 prevention and contingency plan that is -- was in effect
23 six months ago at this facility, have those items changed
24 as part of this modification?

25 A. I don't know.

1 Q. But you testified that this Application was
2 inadequate with respect to H₂S?

3 A. It is.

4 Q. And you don't know if it's inadequate in the way
5 it's been operating for 10 years or if it's inadequate for
6 new and modified operations, correct?

7 A. Okay, you're trying to get me to say that if it
8 was approved, then it's okay? Well, I'm not going to say
9 that.

10 Q. No, I want to -- I want to know if you're saying
11 the opposite, that if it was approved, your testimony is
12 that it's not okay, so --

13 A. No, that's -- that is -- that's not my testimony,
14 it's exactly the opposite. When we as technical people
15 review a permit application, we review the whole thing in
16 its entirety. And each component is typically interlaced
17 with the other ones, the construction is related to the
18 operation, is related to the siting. And therefore I
19 cannot extract myself from that context and bless a one-
20 sentence contingency plan for H₂S, regardless of whether it
21 was previously approved.

22 Q. Okay. So I'm just trying to make sure the record
23 is clear. It's possible that some of your objections to
24 this modification are actually objections to the permit
25 that's in place today, correct?

1 A. I think that would be a misrepresentation.

2 Q. Well, I think with H₂S --

3 MR. APODACA: Mr. Domenici --

4 MR. DOMENICI: Yes.

5 MR. APODACA: -- can you move on? I think you've
6 made your point.

7 MR. DOMENICI: Well, I'm trying to identify which
8 ones --

9 MR. APODACA: I don't think you're going to
10 get --

11 MR. DOMENICI: Okay.

12 MR. APODACA: -- the witness to budge on this. I
13 think we get the point. Please move on.

14 MR. DOMENICI: Well, I just want to -- Let me ask
15 a summary question, and then I'll move on.

16 MR. APODACA: All right, one more question.

17 Q. (By Mr. Domenici) Your objections that you've
18 outlined in great detail are to the entire facility?

19 A. No.

20 Q. You don't have any -- Scratch that, I'll move on.

21 MR. APODACA: Thank you.

22 Q. (By Mr. Domenici) Now, do you agree with Mr.
23 Bonner that if we assume that protectible groundwater
24 beneath this facility is in the lower Dockum, that the
25 geologic barriers, the natural geologic barriers beneath

1 the site, will protect that resource?

2 A. I'm assuming that it is protectible, or it's not
3 protectible?

4 Q. That the protectible -- the nearest protectible
5 water is in the lower Dockum.

6 A. Okay, but that -- the perched water we're talking
7 about?

8 Q. No --

9 A. Oh --

10 Q. -- perched water is in the --

11 A. -- I'm sorry --

12 Q. -- upper Dockum.

13 A. Are you talking about -- that's -- Isn't that the
14 Santa Rosa?

15 Q. Yes.

16 A. Okay.

17 Q. So do you agree with Mr. Bonner that if the
18 nearest protectible water is in the Santa Rosa, the
19 geologic conditions beneath the site protect that resource?

20 A. I can't make that conclusion. I would lean in
21 that direction, but without more information I wouldn't be
22 able to make that conclusion.

23 Q. And you don't have any specific information that
24 Mr. Marley's testimony that the water that would be
25 produced from a well in the perched water would not be

1 usable by his livestock?

2 A. Oh, I have no problem with that.

3 MR. DOMENICI: Can we take a couple of minutes?

4 I think I can sum this up quickly if I get a couple minutes
5 to organize this.

6 MR. APODACA: Please do. We'll take a five
7 minute break, leg-stretch.

8 (Thereupon, a recess was taken at 4:56 p.m.)

9 (The following proceedings had at 5:06 p.m.)

10 EXAMINER JONES: Let's go back on the record.
11 Continue.

12 MR. DOMENICI: No further questions.

13 MS. MacQUESTEN: No questions.

14 EXAMINER JONES: That was emphatic.

15 THE WITNESS: Very enthusiastic.

16 MR. FELDEWERT: No questions.

17 EXAMINATION

18 BY EXAMINER JONES:

19 Q. Mr. Gordon, the -- I was very interested in your
20 entire testimony here. This business about the
21 contaminants in the drilling mud and the completion fluid,
22 are you familiar with drilling operations?

23 A. Not very.

24 Q. But you got that from a -- there was a source you
25 used for that --

1 A. Yeah.

2 Q. -- those contaminants that are in --

3 A. We used two sources. One was the MSDS sheets for
4 the drilling fluids, and the other one was a US EPA
5 publication in October, 2000 -- November, 2000, which I
6 have a copy with, if we need to make it part of the record.

7 Q. I don't think so.

8 What about the RCRA -- have you had RCRA training
9 to -- in other words, to what is defined as hazardous or
10 not?

11 A. Yes.

12 Q. Okay. Can you go through that a little bit with
13 us?

14 A. Right. Well, there are RCRA hazardous wastes and
15 there are CERCLA hazardous substances. The easy one is the
16 hazardous substances. That's just a big long list, and
17 there are no concentrations associated with it.

18 The hazardous wastes come in two primary
19 categories. They are either characteristically hazardous,
20 which means they're corrosive, ignitable, reactive or
21 toxic. And then there are listed wastes, which is a big
22 long list of a variety of different chemicals, and they are
23 automatically deemed to be hazardous wastes, or anything
24 that contains them, at certain levels.

25 Q. Okay, that's what I was getting at. The -- I've

1 even heard that water is hazardous if you drink too much of
2 it, so --

3 A. And the toxic list has concentrations on it too.

4 Q. Okay. So dilution is a big -- sometimes a big
5 factor in whether something is declared hazardous or not?

6 A. From a hazardous-waste perspective that's correct
7 -- from a hazardous-substance perspective.

8 Q. Okay. But this is RCRA-exempt waste, this
9 oilfield related -- So your basic testimony is that this
10 facility -- you would design it to actually contain all of
11 these substances if they were in a hazardous dilution -- or
12 concentration?

13 A. In a perfect world we'd have some data on what
14 the waste streams actually look like. But my perspective
15 is that the liner and the groundwater don't know it's
16 exempt material.

17 So when you're doing the design part, you ignore
18 the exemption because you're dealing with that material and
19 its compatibility with the liner system. So the exemption
20 kind of goes out the door.

21 Q. Okay, how could you ever design a liner that
22 would last 50, 100 years? I mean, can you do that?

23 A. Yes, we've had to make demonstrations that went
24 out as far 1000 years. But they're pretty robust liner
25 systems.

1 Q. With -- that's with leak detection?

2 A. Correct, and then a lot of -- one of the key
3 things is a protective layer on top of it, so it doesn't
4 get damaged during operations or construction.

5 Q. Okay. Okay, what -- I guess I get down to the
6 real concerns you have, the biggest concerns. You listed a
7 whole bunch of concerns. But as far as, is this facility
8 being -- as it is described in their Application, being
9 adequate, which one of these would you say is the biggest:
10 the alluvium below the cells, as contrasted with the --
11 with some kind of a liner on the bottom of the cells? Is
12 that a big factor?

13 A. Not huge. That's merely a differential in
14 permeability. If the liner's okay, if there was a more
15 robust liner system, that would more or less cease to be an
16 issue.

17 Q. Okay. Okay, how much water does a standard
18 household use?

19 A. I think the sort of rule of thumb is 100 gallons
20 per person per day.

21 Q. Okay. So if there's a ranch house in New Mexico
22 and they drill a well, how good a well does it have to be to
23 serve that ranch house? How many gallons a minute does it
24 need to be?

25 A. I have a tendency to think in gallons per day. I

1 can convert for you --

2 Q. That's fine.

3 A. -- if we need to. But I would assume that you
4 would -- you know, depending on the number of folks in your
5 family and your habits and so on, but I would assume that
6 you'd want to be able to get 300 gallons, and it might take
7 two wells to do that.

8 EXAMINER JONES: Okay. Is there any more
9 questions from -- anybody else have questions?

10 MR. FELDEWERT: I just have -- I just have one.

11 REDIRECT EXAMINATION

12 BY MR. FELDEWERT:

13 Q. The Hearing Examiner, Mr. Gordon, asked you
14 questions about this exemption for oil and gas waste.

15 A. Yes, sir.

16 Q. Would you turn to CRI Exhibit 19?

17 A. Yes.

18 Q. Have you seen this document before?

19 A. Yes, I have.

20 Q. Is this a document that's put out by the
21 Environmental Protection Agency that kind of explains what
22 they're talking about -- what you're talking about when
23 you're dealing with exempt oilfield waste?

24 A. Yes, it does.

25 Q. Is this a good source for any questions that the

1 Examiner might have about this exemption?

2 A. Yes, it does a pretty good job in terms of
3 indicating why it was exempted and what the options are for
4 subsequent disposal of exempt material.

5 Q. I'd like you to turn to page 5. About halfway
6 down it talks about, "In 1988 [the] EPA issued a regulatory
7 determination..." Correct?

8 A. Yes, sir.

9 Q. And it goes on to discuss the exemption.

10 A. Yes.

11 Q. And it indicates that although exempt, they're
12 still regulated "under the less stringent RCRA Subtitle D
13 solid waste regulations, or under other federal
14 regulations." Do you see that?

15 A. Yes.

16 Q. What is the RCRA Subtitle D solid waste
17 regulations?

18 A. Those are the MSW, the municipal solid waste regs
19 that we've been talking about.

20 Q. Well, we haven't been able to talk about them.

21 A. Well, we had a liner system that would match
22 those requirements. That's as close as we got, I think.

23 Q. Okay. And then I'd like to read the last
24 sentence. It says, "In addition, although they are
25 relieved from regulation as hazardous wastes, the exemption

1 does not mean these wastes could not present a hazard to
2 human health and the environment if improperly managed."

3 Do you agree with that statement?

4 A. Absolutely.

5 Q. And is that the purpose for your appearing at
6 this hearing today?

7 A. That really sums it up.

8 MR. FELDEWERT: Thank you.

9 EXAMINER JONES: Any other questions?

10 MR. DOMENICI: Yes.

11 RE-CROSS-EXAMINATION

12 BY MR. DOMENICI:

13 Q. Now, you -- just to follow up, Subtitle D is
14 basically solid waste; is that --

15 A. Municipal solid waste, yeah --

16 Q. Municipal --

17 A. -- because the whole -- the universe is solid
18 waste.

19 Q. Municipal solid waste. And you understand that
20 in addition to having an exemption under RCRA, oilfield
21 waste is exempt under the Solid Waste Act?

22 A. 20 NMAC 9.1, correct.

23 Q. Now, when I was asking you about your review of
24 OCD -- the other OCD landfills and you said this was the
25 first one of the landfarms being converted to a partial

1 landfill, I didn't ask you but I want to now, are you
2 familiar with the pit disposal rules of the OCD?

3 A. Yes, I am.

4 Q. Did you participate in any way in formulating
5 those or studying those?

6 A. Yes.

7 Q. During the promulgation phase?

8 A. No.

9 Q. So post-promulgation?

10 A. Correct.

11 MR. DOMENICI: That's all I have.

12 MR. FELDEWERT: That concludes our presentation.

13 I do need to move to admit some of the exhibits
14 I've moved through today.

15 MR. APODACA: Okay, let's proceed.

16 MR. FELDEWERT: I think -- We admitted some of
17 them yesterday, so I think we need to start with Exhibit
18 Number 6. That is Mr. Bonner's --

19 THE WITNESS: Thank you.

20 MR. APODACA: Thank you.

21 MR. FELDEWERT: -- résumé.

22 MR. DOMENICI: No objection.

23 MR. APODACA: Will you identify the number of the
24 exhibit?

25 MR. FELDEWERT: I'm sorry, CRI Exhibit Number 6.

1 MR. APODACA: Okay.

2 MR. FELDEWERT: Do you want me to go through and
3 list them, and then if you've got any objection we can deal
4 with them, or how do you want to do this? Or go one at a
5 time?

6 MR. APODACA: Why don't we admit those that --
7 Let's go through the list. If you have any objections,
8 we'll come back and revisit them.

9 MR. DOMENICI: Okay.

10 MR. FELDEWERT: CRI Exhibit Number 7.

11 MR. DOMENICI: No objection.

12 MR. FELDEWERT: CRI Exhibit Number 8.

13 MR. DOMENICI: No objection.

14 MR. FELDEWERT: CRI Exhibit Number 9.

15 MR. DOMENICI: No objection.

16 MR. FELDEWERT: CRI Exhibit Number 10, which is
17 -- I'm sorry, it's already been admitted.

18 CRI Exhibit Number 11. That's the table.

19 MR. DOMENICI: No objection. Well, that's
20 subject to, I think, not -- not considering the column on
21 "Water Quality" and "Solid Waste".

22 MR. FELDEWERT: There was no testimony on that,
23 correct.

24 MR. DOMENICI: With that understanding, no
25 objection.

1 MR. APODACA: Let's clarify that for the record.
2 Which columns are not --

3 MR. DOMENICI: There's a column at the top that
4 says "Water Quality" and a column at the top that says
5 "Solid Waste", and there was not testimony on those

6 MR. APODACA: That portion will not then be
7 admitted.

8 MR. FELDEWERT: Exhibit Number 12, that's already
9 been admitted.

10 Exhibit 13 we're going to skip, so we're not
11 offering that, not offering 14.

12 Exhibit Number 15.

13 MR. DOMENICI: No objection.

14 MR. FELDEWERT: Exhibit Number 16 has been
15 admitted.

16 Exhibit Number 17, I'd like to admit that.
17 That's the résumé for Mr. -- Dr. Turnbough.

18 MR. DOMENICI: No objection.

19 MR. FELDEWERT: 18, no, we're not going to offer.

20 Exhibit Number 19 is the one we just went through
21 with the -- briefly with the Hearing Officer.

22 MR. DOMENICI: No objection.

23 MR. FELDEWERT: Exhibit Number 20 is a public
24 record, I don't need to admit that.

25 Exhibit 21, that's the notice of violation to

1 Gandy Marley dated May 9th, 2005.

2 MR. DOMENICI: No objection.

3 MR. FELDEWERT: And we will not -- pursuant to
4 the instructions of the Examiner, we will not admit Exhibit
5 -- offer to admit Exhibit 22.

6 MR. APODACA: Very good.

7 MR. FELDEWERT: And I think -- Has CRI Exhibit 23
8 been admitted? That was the -- if not, I'd offer to admit
9 that as an exhibit.

10 Mr. Domenici, have you got any objection to CRI
11 Exhibit 23?

12 MR. DOMENICI: No objection, I'm sorry.

13 MR. APODACA: All right, very good.

14 MR. FELDEWERT: With that, I think that concludes
15 our presentation of our case.

16 EXAMINER JONES: Thank you, Mr. Feldewert.

17 MR. DOMENICI: I would like to give some brief
18 rebuttal, if I could, and -- Dr. Mansker?

19 WILLIAM L. MANSKER,

20 the witness herein, having been previously duly sworn upon
21 his oath, was examined and testified as follows:

22 DIRECT EXAMINATION

23 BY MR. DOMENICI:

24 Q. Dr. Mansker, you heard Mr. Corser's -- Mr.
25 Bonner's testimony?

1 A. Yes, I did.

2 Q. And you heard his description of the soil
3 characteristics in the upper Dockum beneath the facility?

4 A. Yes, I did.

5 Q. Do you agree with his interpretation?

6 A. To the extent that the factual data supports, I
7 believe we're pretty much in agreement. On the subsurface
8 stratigraphy we disagree on interpretation of some of that
9 factual data.

10 Q. What -- describe to the Hearing Officer what you
11 think the -- what kind of barrier the clay in the upper
12 Dockum provides?

13 A. I believe it will provide a substantial barrier
14 to any downward movement and, to a lesser extent but also a
15 sufficient extent, to any lateral migration, the clays will
16 be a relatively impervious barrier to any fluid movements.

17 Q. And what -- how -- You heard him testify. What
18 is the basis for your different interpretation?

19 MR. FELDEWERT: Let me object. I -- it sounds --
20 what he's testified to so far is exactly what he testified
21 to on direct.

22 I don't think rebuttal is for the purposes of re-
23 offering the witness and having him, in essence,
24 regurgitate the same opinions, so I would ask that the
25 examination be limited to any new opinions that he has, or

1 any clarifications of his prior opinions.

2 MR. APODACA: Mr. Feldewert raises a legitimate
3 point.

4 What is the purpose of the rebuttal witness? We
5 don't want -- we don't need to revisit his testimony that
6 we've heard before.

7 MR. DOMENICI: Let me be more specific, if I
8 could.

9 MR. APODACA: Thank you.

10 Q. (By Mr. Domenici) Mr. Bonner that there was --
11 there were -- he seemed to testify that there were sand
12 lenses and that the clay was discontinuous across the upper
13 Dockum.

14 A. I believe Mr. Bonner's illustration -- I forget
15 which figure it is -- described the upper Dockum as red
16 mudstones with sand lenses within that red mudstone. So
17 that, to me is -- I interpret that as the dominant
18 lithology is clay or red mudstone, and the lenses,
19 discontinuous lenses he described, are lesser in
20 population, total population than the red mudstone.

21 Q. And if the red mudstone is discontinuous, what
22 impact would that have on permeability to the perched
23 water?

24 A. It would have some minor impact but not a major
25 impact, because we have unsaturated beds or lithologies

1 beneath the surface, both in the alluvial -- or including
2 the alluvial sands, the clays, the siltstones and the
3 sandstones. Those are all unsaturated down to the point of
4 finding these erratic -- or what I interpret as erratic
5 sandstone lenses that have some water in them, some perched
6 water. And those, in turn, are underlain by unsaturated
7 lithologies.

8 Q. So what conclusion does that lead you to believe
9 as far as how the sand will operate as a barrier, or how
10 the clays will operate as a barrier?

11 A. I believe the sands are surrounded by the clays.
12 The clays may vary laterally, but the clays constitute the
13 majority of the lithology, the clays and the silts, which
14 are both impediments to downward movement, have much higher
15 -- or much lower permeabilities, much lower hydraulic
16 conductivities.

17 And if indeed the sand lenses are discontinuous
18 within the red mudstone, then that's essentially trapped
19 groundwater that is of very low total volume. Therefore
20 very small total yield would be available from those
21 isolated sandstone bodies.

22 MR. DOMENICI: That's all I have.

23 MR. FELDEWERT: No questions.

24 MS. MacQUESTEN: No questions.

25 MR. DOMENICI: Mr. Corser.

PATRICK CORSER,

1
2 the witness herein, having been previously duly sworn upon
3 his oath, was examined and testified as follows:

4 DIRECT EXAMINATION

5 BY MR. DOMENICI:

6 Q. Mr. Corser, I'd like you to comment on a couple
7 of things. First of all, you heard Dr. Neeper's testimony
8 yesterday?

9 A. Yes.

10 Q. Describe to the Hearing Examiner your specific
11 experience with evapotranspiration landfill covers.

12 A. Well, he described his concerns with a variety of
13 cover sections and their ability to withstand long-term --
14 their ability to perform long-term. And I believe, as I
15 indicated earlier, that --

16 MR. FELDEWERT: Can I lodge an objection? My
17 objection would be that he's referring to Dr. Neeper's
18 testimony. Dr. Neeper is not here today. He was a party
19 to this case. He was not put on notice that they were
20 going to recall a witness to discuss the nature of his
21 testimony. I think there's -- procedurally, there's a
22 problem with having Mr. Corser now address the testimony of
23 Dr. Neeper when he is not here to hear this, respond to it,
24 or was not made aware that this was going to occur.

25 MR. APODACA: Well, I think a party -- and he

1 considered himself a party, he entered an appearance in
2 this proceeding -- had the opportunity to be here and to
3 participate in today's hearing. He may have had other
4 commitments, but he certainly had that opportunity and he
5 chose not to avail himself of it. So I think you can
6 proceed, because it was his decision.

7 THE WITNESS: He discussed the performance of
8 various covers, and I was -- concur with him in terms of
9 their ability to perform long-term. I have direct
10 experience on historic landfills that would indicate that
11 compacted clay covers do not perform well.

12 The industry has been looking at
13 evapotranspiration covers as an alternative cover to
14 address landfills in arid climates. EPA has put out a fact
15 sheet on evapotranspiration covers which acknowledges that
16 RCRA does provide design guidance for both Subtitle D
17 landfills and Subtitle C landfills, but that an
18 evapotranspiration cover is an appropriate alternative
19 cover for arid climates.

20 And that cover can consist of a simple monolithic
21 cover of a soil which acts as a water absorber and then
22 evaporates the water during the dry season. It can also
23 include a capillary break in it, if that's required for a
24 specific design.

25 It has the advantage that it won't dry out and

1 crack, it has the advantage that it's more suitable in an
2 arid climate.

3 Q. (By Mr. Domenici) Is that fact sheet the
4 document I handed you there?

5 A. Yes, it is.

6 MR. DOMENICI: And I'd like to mark that as GMI
7 exhibit -- Do you remember?

8 MS. HOLLINGSWORTH: 29, I think. I think the
9 last thing we put in was the contract. No, 29, 30, hang
10 on, 31.

11 MR. DOMENICI: If you can mark that, Mr. Corser,
12 as 31.

13 THE WITNESS: Sure.

14 Q. (By Mr. Domenici) Then let me hand you Exhibit
15 32. Can you identify that?

16 A. Yes, this is a paper published in the *Journal of*
17 *Geotechnical Engineering* in February of 1993. It was
18 authored by Professor David Daniel and Yung-Kwang Wu, and
19 it -- the title of it is "Compacted Clay Liners and Covers
20 for Arid Sites. This is a peer-reviewed journal which
21 reports the results of field studies and literature studies
22 and discusses the performance of compacted clay liners and
23 covers.

24 It indicates that they can be placed and
25 compacted to achieve low-permeability characteristics, but

1 that at arid sites they have the potential to dry and
2 crack.

3 It references a site-specific experience that
4 they had at a site in Texas. It also reviews the
5 literature and reviews a number of reported case histories
6 where these have not performed well. It in addition
7 reviews some literature that I published in an article in
8 1991 where I actually constructed some test fills to
9 investigate this drying and cracking mechanism.

10 It concludes that protection from drying and
11 cracking for clay covers cannot be addressed -- it would
12 require more than 18 inches of cover soil to address drying
13 and cracking of a clay cover.

14 So this reiterates some of the experience that we
15 as a profession have picked up in the performance of clay
16 covers and their applicability in an arid environment.

17 MR. DOMENICI: I would move admission of Exhibits
18 31 and 32.

19 MR. FELDEWERT: Well, I think these are public
20 records. I don't have any objection.

21 EXAMINER JONES: Mr. Feldewert -- I mean, Ms.
22 MacQuesten, I'm sorry.

23 MS. MacQUESTEN: Excuse me?

24 EXAMINER JONES: Sorry.

25 MR. APODACA: We're all one big family here.

1 MS. MacQUESTEN: No objections.

2 EXAMINER JONES: Okay, we'll admit Exhibits 31
3 and 32, GMI.

4 Q. (By Mr. Domenici) Now, Mr. Corser, you heard Mr.
5 Gordon testify, and he's an engineer and you're an
6 engineer --

7 A. Yes.

8 Q. -- and it seems like there's two different
9 opinions as to -- between engineers, as to the -- this
10 Application.

11 A. Uh-huh.

12 Q. Can you -- focusing only on Rule 711 and the OCD
13 guidelines --

14 A. Uh-huh.

15 Q. -- can you address some of the issues he raised?
16 And in particular, let me focus you on his Exhibit 16,
17 which is in that green book in front of you.

18 A. Uh-huh. Sixteen?

19 Q. The drawing of the --

20 A. Oh, the drawing, okay.

21 Q. How do you foresee Gandy Marley proceeding to
22 construct its landfills if this Application is approved?

23 A. Well, if they have an approved Application, I
24 believe they would then have to proceed to detailed design
25 and development of a construction plan, which would include

1 a series of design drawings, which would indicate the
2 specifics of the cell layout, the berm construction, the
3 surface-water diversions, the grading plan for the base of
4 the facility, the grading plans and compaction
5 specifications for the clay liner.

6 Q. And who would prepare those?

7 A. A professional engineer registered in New Mexico.

8 Q. And then those would be presented to OCD for
9 review?

10 A. I believe that's the plan.

11 Q. And Mr. Gordon indicated that he thought Exhibit
12 16 was a diagram as described in Rule 711.

13 A. Uh-huh.

14 Q. And I think your earlier testimony was that the
15 attached schematic was a diagram?

16 A. Uh-huh.

17 Q. Are they both diagrams, or is -- how would you
18 reconcile that testimony, if you could?

19 A. Well, I believe the drawing that's included in
20 the Application defines the major components that would be
21 included in the detailed design and the construction plans.

22 This figure is more specific, has more details on
23 it, but doesn't provide any more information in terms of
24 the containment measures that would be required for the
25 facility.

1 Q. And the detail sufficient for construction would
2 be provided after, under the Rule?

3 A. Yes, I believe that's allowed by the OCD
4 guidelines.

5 Q. Now, Mr. Gordon also testified about a number of
6 different liner options. I think that's in the book as
7 Exhibit 15.

8 A. Uh-huh.

9 Q. And as part of his testimony he indicated that at
10 least some of the regulatory regimes that were related to
11 these liners had performance standards. Are you familiar
12 with the performance standards?

13 A. Yes.

14 Q. Do you have Rule 711 in front of you?

15 A. If I do, I'm not sure where it is. Is that a
16 specific exhibit?

17 MR. APODACA: No, it's --

18 MR. DOMENICI: Here's a copy.

19 Q. (By Mr. Domenici) With respect to protection of
20 water resources, is paragraph 711.B.(1).(j) the only
21 performance standard, or item that would be like a
22 performance standard, that is required by the OCD?

23 A. That's the only thing that's listed.

24 Q. And in your opinion, does the -- based on
25 geological/hydrological evidence and the conceptual design,

1 is Gandy Marley's Application -- does it demonstrate it
2 will not adversely impact freshwater?

3 A. It defines the site where it will be located,
4 which is in an arid site. I think that -- To me, that's a
5 big component. It's sited in a favorable geologic and
6 hydrologic setting, to protect the perched groundwater
7 which is in the upper Dockum.

8 Q. So it satisfies this --

9 A. Yes.

10 Q. -- to the extent this is a performance standard,
11 the proposal would satisfy it?

12 A. (Nods)

13 Q. Now, Mr. Gordon talked about waste streams as a
14 way of analyzing the performance of the facility. Are you
15 familiar with -- familiar enough with the drilling
16 practices and the nature of the drilling mud and other
17 wastes that would come here to comment on his testimony
18 about how he approached that?

19 A. In a general sense, yes.

20 Q. Will you please respond --

21 A. Well, he --

22 MR. FELDEWERT: Let me object. Is he offering an
23 opinion here?

24 MR. DOMENICI: Yes.

25 THE WITNESS: Yeah.

1 MR. FELDEWERT: Can I voir dire the witness?

2 MR. APODACA: Please proceed.

3 VOIR DIRE EXAMINATION

4 BY MR. FELDEWERT:

5 Q. Mr. Corser, do you have any experience in the
6 oilfield?

7 A. No direct experience.

8 Q. None whatsoever?

9 A. No.

10 Q. Have you ever had occasion to examine the waste
11 streams that are generated by the oil and gas industry?

12 A. Beyond a general knowledge of what's in them, no.

13 Q. "Beyond a general knowledge". What do you mean
14 by that?

15 A. Petroleum hydrocarbons.

16 Q. Have you read any literature?

17 A. No.

18 MR. FELDEWERT: I object to him testifying as to
19 the characteristics of an oil and gas waste stream.

20 MR. DOMENICI: Let me withdraw the question.

21 DIRECT EXAMINATION (Resumed)

22 BY MR. DOMENICI:

23 Q. Can you talk about the moisture content, based on
24 your knowledge of the landfarm permit --

25 A. Uh-huh.

1 Q. -- and the operations of the landfarm, can you
2 testify about the moisture content of the waste stream that
3 would be entering the landfill?

4 A. Yes, I believe I can. There was concern about
5 petroleum hydrocarbons and salt compounds affecting the
6 permeability of clay liners, and I concur with that. But
7 that is generally only if they are in very high
8 concentrations in a free liquid form. It's my
9 understanding that the wastes that will be disposed of in
10 this cell will be contained in a drilling mud as it arrives
11 at the site, and it will be further stabilized before it's
12 disposed of. So I don't believe there will be any free
13 compounds in direct contact with the clay liner.

14 Q. So do you believe a leachate collection system is
15 necessary?

16 A. No, not for this facility.

17 MR. DOMENICI: That's all I have.

18 CROSS-EXAMINATION

19 BY MR. FELDEWERT:

20 Q. Mr. Corser, are you -- Dr. Neeper is not here.
21 Are you advocating the use of an alternative final cover
22 system such as evapotranspiration, which is addressed in
23 this document?

24 A. Yes, that's the type of cover that I think is
25 appropriate for the Gandy Marley landfill.

1 Q. Have you done any studies on these --

2 A. Yes.

3 Q. -- systems?

4 A. Yes.

5 Q. And did you help in -- Is this a report you
6 helped -- you participated --

7 A. No, I had no involvement with that. It's the
8 other article.

9 Q. Okay. And was this report issued before or after
10 your study?

11 A. It was issued in 2003. My studies were conducted
12 in -- or were reported in 1991.

13 Q. 1991.

14 A. Uh-huh.

15 Q. So over 12 -- well, 12 years prior to this
16 report?

17 A. Uh-huh.

18 Q. And they were reported? Your studies were
19 reported?

20 A. Yes, they're referenced and quoted in the article
21 which discusses performance of clay liners and covers.

22 Q. Would you turn to page 4 of Exhibit 32?

23 A. Thirty-two. Is that this one?

24 Q. No. I'm sorry, the EPA document.

25 A. Okay, I have that marked as 31.

1 Q. Am I messed up here? This is 31. Okay.

2 Are you on page 4?

3 A. Yes.

4 Q. I'd like to draw your attention to the column
5 that says "Limitations".

6 A. Yes.

7 Q. I'd like you to go down to the last paragraph.

8 A. Uh-huh.

9 Q. Can you read the first sentence? Out loud,
10 please?

11 A. "Limited data are available to describe the
12 performance of ET cover systems in terms of minimizing
13 percolation as well as the covers' ability to minimize
14 erosion, resist biointrusion, and remain effective for an
15 extended period of time."

16 Q. This section goes on to list other concerns about
17 the -- concerns and limitations about the use of this --

18 A. Uh-huh.

19 Q. -- proposed ET cover system, correct?

20 A. Yes, there are some in the preceding paragraphs.

21 MR. FELDEWERT: Okay, that's all I have.

22 EXAMINER JONES: Ms. MacQuesten?

23 MS. MacQUESTEN: No questions.

24 EXAMINER JONES: I have no questions either. Do
25 you have any questions?

1 MR. APODACA: (Shakes head)

2 MR. DOMENICI: We call Ed Martin.

3 EDWIN E. MARTIN,

4 the witness herein, having been previously duly sworn upon
5 his oath, was examined and testified as follows:

6 DIRECT EXAMINATION

7 BY MR. DOMENICI:

8 Q. Mr. Martin, have you considered additional
9 testimony and evidence that's been presented since
10 yesterday?

11 A. Yes.

12 Q. And have you developed any conditions or comments
13 on the Gandy Marley permit Application as presented and set
14 forth in this hearing?

15 A. I have.

16 Q. Will you describe what your position is on the
17 Gandy Marley Application, as the OCD permit writer?

18 A. The same as my testimony yesterday, that I think
19 the Application itself is approvable or actionable --
20 approvable with conditions, or actionable otherwise.

21 I have gained a lot of knowledge over the last
22 two days, and some of the suggestions I would take
23 seriously and write conditions to address those concerns.

24 Q. Have you finalized or come to some decision on
25 those conditions?

1 A. Not completely.

2 Q. Do you have enough of a preliminary indication of
3 any conditions that you're prepared to testify to?

4 A. Additional monitor wells would be one.

5 Some condition in there that addresses the
6 monitoring of the closure process as described in the
7 Application.

8 Requiring sampling of the material used to cover
9 the landfill before it's covered.

10 Some kind of quality-control provisions. And
11 these are pretty nebulous ideas I'm naming off now. I have
12 not formulated any kind of specific language, but...

13 Some sort of waste-screening provisions.

14 Sampling required on any precipitation that is
15 vacuumed out of the facility.

16 Some post-closure requirements.

17 That's really all I've got any kind of definite
18 idea about.

19 Q. And you would want to make more -- prepare more
20 detail on these items that you've described?

21 A. Yes.

22 Q. Is it accurate that, given what you've heard so
23 far, the Gandy Marley Application -- and if you draft
24 conditions that -- detailed conditions on the issues you've
25 described, it would be your position that Gandy Marley's

1 Application meets the requirements of Rule 711?

2 MR. FELDEWERT: Objection, that's vague, since
3 Mr. Martin has said he has some nebulous ideas, but he's
4 got nothing specific.

5 MR. APODACA: Would you rephrase your --

6 MR. DOMENICI: Well, that's why I'm asking him.

7 MR. APODACA: Would you rephrase your question,
8 please?

9 Q. (By Mr. Domenici) Is it correct that with the
10 addition of detail on the conditions that you've just
11 described, the additional conditions, detail suitable to
12 you, that it would be your position that Gandy Marley's
13 proposed modification meets the requirements of Rule 711?

14 A. I believe that the resulting permit, should there
15 be one, would address all the concerns in Rule 711, plus
16 other concerns, possibly not in the Rule, that were brought
17 up at this hearing.

18 MR. DOMENICI: That's all I have.

19 CROSS-EXAMINATION

20 BY MR. FELDEWERT:

21 Q. Mr. Martin, is the -- what the public was
22 notified -- noticed about, was the filing of an Application
23 by Gandy Marley, correct?

24 A. Correct.

25 Q. And if a member of the public came to the

1 Division and was wanting to ascertain what Gandy Marley was
2 proposing, all they would have would be what's in the --
3 that Application?

4 A. That's correct.

5 Q. And so when the public would come to this
6 hearing, all the information they would have that they
7 would understand was going to be the subject of that
8 hearing would be in that Application?

9 MR. DOMENICI: I object to that question.
10 That's --

11 MR. FELDEWERT: Well, let me back up.

12 Q. (By Mr. Feldewert) There has been some testimony
13 presented here today about some additions to the
14 Application that has been filed by Gandy Marley, correct?

15 A. Correct.

16 Q. And in fact, you've just testified that you have
17 some -- what you term nebulous ideas about what additional
18 requirements you --

19 A. Correct.

20 Q. -- you would need in order to protect the public
21 health and the environment, right?

22 A. Yes.

23 Q. Is there going to be any opportunity for the
24 public to be able to comment on whatever detail you end up
25 coming up with prior to the time that the permit is issued?

1 Q. So that was something that you would have added
2 as a condition before you even heard the testimony?

3 A. Yes.

4 Q. But there was some testimony, I recall, about
5 lack of knowledge regarding the flow of the groundwater?

6 A. Yes.

7 Q. Would that affect how you would decide placement
8 of monitor wells, number of monitor wells?

9 A. That would be a determining factor. I think I
10 would like to also -- and I didn't mention this, I guess,
11 some kind of vadose-zone monitoring, which would be the
12 monitoring of the area between the surface and the
13 groundwater.

14 Q. Could you explain that?

15 A. To make sure -- If there's concern about the clay
16 not being continuous, I want to make sure that any
17 contaminants are not -- if there is a failure, that any
18 contaminants are not washed along the slope of that and off
19 of the clay barrier.

20 Q. What type of vadose zone monitoring do you
21 suggest?

22 A. I don't have any specifics yet. I'm not prepared
23 to make a statement on that, but some -- we do that on
24 occasion -- numerous occasions, have vadose-zone monitoring
25 of some sort, and I'm not sure which would be most

1 appropriate in this case.

2 Q. I take it that the vadose zone monitoring would
3 check to see if any contaminants got to the monitoring
4 system?

5 A. Right.

6 Q. What would happen if you found contaminants?

7 A. That also has not been thought out by me. That's
8 one of those nebulous ideas we were just talking about. So
9 I don't have an idea yet on that. But the language can be
10 -- and I think that it would address that.

11 Q. The second item you listed was the monitoring of
12 closure process. When you last testified, you said you
13 wanted to hear more testimony about the type of cap.

14 A. Yes.

15 Q. Do you have a recommendation for the type of cap?

16 A. I share the concerns of some of the witnesses of
17 a clay cap in this arid climate. I would tend toward an
18 evapotranspiration cap of some sort.

19 Q. Why?

20 A. Because of the chance of the clay cap cracking
21 and making the use of it -- it would be of no use if it
22 cracked, it would just create preferential pathways for
23 precipitation to get down into the contamination.

24 Q. Can you address the concerns of Dr. Neeper about
25 salts rising through the soil cap?

1 A. I don't know for sure. I would have no problem
2 with using him as a resource and seeing if I could address
3 his concerns.

4 Q. One of the other concerns you had was the
5 mounding of the wastes to and slightly above the height of
6 the berm surrounding each cell. What is -- Is that
7 something you would address the conditions, or did you
8 decide not -- that that was not something you would
9 address?

10 A. That is of concern to me. I'm not sure it would
11 justify a condition, but I haven't made up my mind yet.

12 Q. The next item I have on the list is sampling of
13 material used for the cover?

14 A. Yes.

15 Q. And what was the concern there?

16 A. To make sure that the soil that they're putting
17 on top has been remediated to our standards, wherever
18 they're getting it from.

19 Q. Remediated as to hydrocarbons, salts or what?

20 A. All of the above.

21 Q. So do you have any concern about using material
22 that comes from the remediated landfarm sites --

23 A. I don't --

24 Q. -- as cover or berm material?

25 A. I don't with the proper sampling.

1 Q. The next item I have is quality control
2 provisions. What did you mean by that?

3 A. Quality control as to the -- Most of what that is
4 directed at is the construction of the clay liner. Some
5 kind of quality control provisions in there to assure us
6 that it was indeed compacted to 10^{-7} centimeters per second
7 and that that's uniform across the entire liner.

8 Q. How could you assure that? What kind of
9 conditions --

10 A. Again, I'm not sure. I don't have any language
11 like that, I don't think, that I can think of right
12 offhand, but I'm sure I could find something.

13 Q. The next item I have is waste screening.

14 A. That was a concern of one of the witnesses, one
15 of the CRI witnesses, I believe, and I believe that that's
16 worth considering as to what type of waste and what
17 concentrations of those wastes are going into the landfill.

18 Q. So you're talking about screening of waste before
19 it's placed into the landfill cells?

20 A. Right, yes.

21 Q. Are you concerned about the landfill's accepting
22 debris?

23 A. I am. I have that listed, and I don't have that
24 addressed yet in anything -- in any readable form, but I
25 want to make sure that there's some provisions in there

1 that they don't accept debris that will compromise the
2 quality of the liner, or that it's placed in there in some
3 manner that it won't compromise the liner.

4 Q. The next item I have is sampling on precipitation
5 that is vacuumed out of the landfill?

6 A. Yes, to me that's -- might be an indication. And
7 again, this is kind of a brainstorming thing that I'm doing
8 in my head, but it seems to me that that would be a
9 worthwhile thing to do, to see -- make sure that the water
10 that they vacuum out of there is not contaminated. That
11 would further determine where that water could be disposed
12 of.

13 Q. Is it your concern with the water that's taken
14 out or the landfill cell?

15 A. I was concerned with -- part of the Application
16 had addressed what they were going to do to control
17 precipitation, ponding and pooling in the bottom of the
18 cell, unused portion of the cell.

19 Q. I'm still unclear. You said you wanted to test
20 the water that was removed so you could know how to deal
21 with the water. But if the tests showed contaminants in
22 the water, would that affect how the landfill should be
23 managed?

24 A. Possibly.

25 Q. In what way?

1 A. Either they're not covering the -- not adequately
2 covering the waste, as they describe. That would give me
3 some indication as to the quality of that covering, that
4 would be another way of monitoring that covering process.

5 Q. The last item I have listed is post-closure
6 requirements.

7 A. Something like deed restriction, perhaps, or some
8 kind of assurance that this doesn't become a legacy problem
9 to address several concerns, including Dr. Neeper's.

10 Q. If I recall the testimony, there were some
11 comments to the effect that once a facility such as this
12 landfill is closed, it should be monitored for a period of
13 some years to determine if there are going to be erosion
14 problems or re-vegetation problems and so forth. Is that
15 what you had in mind?

16 A. That too, yes. Thank you.

17 Q. How common is it for the OCD to add conditions to
18 a permit?

19 A. Very common.

20 Q. Are the conditions you're discussing today
21 unusual to add to a permit?

22 A. I don't think so, for this type of permit.

23 Q. The last time you testified, you offered to draft
24 a -- after hearing all the testimony and absorbing it, you
25 offered to draft a permit with conditions that you could

1 recommend as something that the Examiner could accept.

2 A. Yes.

3 Q. Is that offer still open?

4 A. It's still good.

5 Q. How long would it take you to do something like
6 that?

7 (Laughter)

8 Q. (By Ms. MacQuesten) Can you have it to us by --

9 A. Are you going to need it by six, seven o'clock?

10 (Laughter)

11 THE WITNESS: I don't know, it's -- I could
12 probably do it, let's say, 10 days. Ten days or so, or
13 less, if I didn't work on anything else.

14 (Laughter)

15 Q. (By Ms. MacQuesten) Are you trying to get out of
16 the retreat?

17 A. That's a possibility.

18 (Laughter)

19 THE WITNESS: I see somebody's head shaking back
20 there, so I think that's out of the question.

21 MS. MacQUESTEN: No more questions.

22 FURTHER EXAMINATION

23 BY MR. FELDEWERT:

24 Q. Mr. Martin, with all these problems and concerns
25 that you outlined and went through, does that likewise have

1 an effect on the financial assurance and the cost estimate
2 to close this facility?

3 A. It's possible.

4 Q. Particularly the legacy portion of that?

5 A. It's possible.

6 Q. Okay. Would you be comfortable with saying that
7 the present bonding requirement is going to be sufficient
8 to deal with your concerns about legacy?

9 A. I'm not prepared to testify at this time. My
10 guess would be, probably not adequate.

11 MR. FELDEWERT: Okay, that's all I have. Thank
12 you.

13 EXAMINATION

14 BY EXAMINER JONES:

15 Q. Mr. Martin, have you been here during the whole
16 -- this whole proceeding?

17 A. With a few brief breaks, yes.

18 Q. Okay. Do you have any opinions about the
19 strength or the weakness of the different testimony here,
20 not individuals, but as far as what would you have seen --
21 like to have seen more and talked about, or less talked
22 about?

23 A. Less talked about?

24 Q. Yeah, less talked about.

25 (Laughter)

1 Q. (By Examiner Jones) Is there anything that you
2 thought was lacking?

3 A. I think everything was pretty adequately covered.

4 EXAMINER JONES: Excuse me a minute.

5 (Off the record)

6 Q. (By Examiner Jones) How many landfills have you
7 seen permitted?

8 A. I have personally seen none. Out of all the
9 landfills that exist today, OCD-permitted landfills were
10 permitted prior to my involvement with the Environmental
11 Bureau.

12 Q. How many years ago was that?

13 A. My coming onto the Environmental Bureau? About
14 four years ago, five years ago.

15 Q. Okay. Are you aware of any landfills that have
16 already been permitted? Are you familiar with those
17 landfills?

18 A. Yes.

19 Q. And of course they're all different circumstances
20 than these, right? Is this one pretty unique?

21 A. Well, every site is unique in some way, yes.

22 Q. Yeah. Have you ever known the Division to
23 require some of these things that you're talking about
24 potentially requiring here? I realize you're not the one
25 writing the permit for this, because it somehow got bumped

1 to me --

2 A. Yes.

3 (Laughter)

4 Q. (By Examiner Jones) -- but these hypothetical
5 things you're talking about, do they exist in other
6 permits?

7 A. In some cases. I can't say that they exist in
8 all the landfill permits or all the landfarm permits, but
9 there's language available either in our records or someone
10 else's records to address all those concerns.

11 EXAMINER JONES: Okay, anybody else have a
12 question for Mr. Martin?

13 MR. FELDEWERT: No.

14 MR. DOMENICI: (Shakes head)

15 EXAMINER JONES: Okay, thank you, Mr. Martin.

16 Any other witnesses?

17 MR. DOMENICI: No. I do have one more exhibit
18 I'd like to put in which is --

19 MR. APODACA: You've exceeded your limit, Mr.
20 Domenici.

21 (Laughter)

22 MR. DOMENICI: This is these additional analyses.
23 I'm not sure -- Did I give you a set of these beforehand?

24 MR. FELDEWERT: I think you did.

25 MR. DOMENICI: I think I did.

1 MR. FELDEWERT: The problem that I saw is that
2 this is not signed by anyone, and I think there's also --
3 and I forget what page it is. There's also some custody
4 issues associated with the sampling; apparently there was a
5 delay in getting the samples from the site to the lab,
6 there weren't any preservatives put on it. I think that's
7 borne out on the record. So I think there are some
8 problems with the document.

9 But you know, this is an administrative
10 proceeding, so I will --

11 MR. APODACA: Do you need this exhibit, Mr.
12 Domenici? What purpose would it serve?

13 MR. DOMENICI: The only purpose, actually, is to
14 just show that the work is ongoing, to collect samples. So
15 I am not really introducing it for the results, it's just
16 to show that Gandy Marley -- in fact, I could just do a
17 cover sheet or something to show that as of this date we
18 have some results back from our contractor.

19 MR. APODACA: Mr. Feldewert, would you stipulate
20 that work is ongoing to collect samples?

21 MR. FELDEWERT: I will stipulate that they have
22 -- that work is ongoing to collect the data they need.
23 Yes, I will stipulate.

24 MR. DOMENICI: That's sufficient.

25 MR. APODACA: All right, we'll just have that

1 stipulation in here in the record.

2 Well, before we turn to closing arguments -- Ms.
3 MacQuesten, do you plan to have a closing argument?

4 MS. MacQUESTEN: No.

5 MR. APODACA: Well, we'll have closing arguments
6 from the Applicant and then from CRI.

7 -- I wanted to handle a few procedural matters.
8 But to begin with, I wanted to compliment all the parties
9 and their counsel for their presentations over the last two
10 days and the professionalism and courtesy shown over the
11 last two days. I think it's safe to say that with -- it's
12 not been an easy hearing, but with less able counsel it
13 would have been a very, very difficult hearing, so I want
14 to thank all counsel. I also want to thank all the
15 witnesses as well. I think things went very well in terms
16 of getting the evidence into the record, including the
17 witness who didn't testify.

18 (Laughter)

19 MR. APODACA: First of all, I want to address
20 Gandy Marley's motion to -- I'm sorry, I want to address --
21 Yes, I want to address Gandy Marley's motion to dismiss
22 CRI's objection for lack of standing. That motion is
23 denied.

24 Section 70-2-23 specifies that any person having
25 interest in the subject matter of the hearing shall be

1 entitled to be heard. That section does not specify what
2 that interest has to be. I believe Mr. Domenici indicated
3 that it was his impression that CRI had an economic
4 interest. Again, neither the Rules nor the Statutes
5 specify what the interest must be. We are satisfied that
6 CRI has an interest.

7 Second, the motion from CRI to limit the scope of
8 Gandy Marley's evidence and the evidence to be considered
9 by the Examiner is taken under advisement.

10 Third, the record will remain open for a period
11 of three weeks -- that will be until the close of business
12 on June 14th -- for any additional public comment that the
13 public may want to submit on the evidence that was
14 presented both in support of an in objection to the
15 Application of Gandy Marley.

16 Fourth, all parties are required to submit
17 proposed findings of fact and conclusions of law, again by
18 June 14th, regarding the subject matter of this hearing and
19 what will be contained in the Director's order on the
20 matter of this hearing.

21 Finally, number five, and this will be optional,
22 but Dr. Neeper did submit a proposed -- or set of proposed
23 permit conditions, and therefore any parties who want to
24 offer proposed permit conditions for any permit that may be
25 granted will also be able to do so, again by June 14th.

1 And that's not to infer -- or to imply, I'm not quite sure,
2 I need to look at Mr. Gordon -- Dr. Gordon asked which is
3 the correct usage -- but that's not to infer or imply that
4 a permit will be granted. Rather, for example, CRI's tests
5 indicated additional liner requirements. They may want to,
6 for example, specify what those conditions need to be.

7 If you could submit those permit conditions to us
8 in electronic format, as well as a hard copy, that would be
9 very appreciated. That also goes to the findings of fact
10 and conclusions of law.

11 MR. FELDEWERT: Could I address that --

12 MR. APODACA: Please do.

13 MR. FELDEWERT: -- June 14th date? I have a
14 long-standing --

15 MR. APODACA: What date would you like --

16 MR. FELDEWERT: -- vacation --

17 (Laughter)

18 MR. FELDEWERT: -- I haven't seen for quite a
19 while, so I'm going to be out the next -- basically the
20 next two weeks. I was hoping maybe I could have until the
21 21st or maybe the end of that week, the 24th.

22 MR. APODACA: I don't think you'll hear
23 objections from Gandy Marley --

24 MR. DOMENICI: (Shakes head)

25 MR. APODACA: -- so June 24th is the date --

1 MR. FELDEWERT: Thank you.

2 MR. APODACA: -- for all those matters that
3 previously were associated with the June 14th deadline.
4 And have a good vacation.

5 MR. FELDEWERT: Thank you very much.

6 MR. DOMENICI: Could I ask for a clarification
7 also?

8 MR. APODACA: Yes.

9 MR. DOMENICI: Is it expected that we would be
10 able to comment on Mr. Martin's -- comments or whatever
11 we're going to call them, his presentation?

12 MR. APODACA: It's public comment on the evidence
13 taken at this hearing, and if you want to submit comments
14 on that you're entitled to, as any other member of the
15 public would be able to.

16 Ms. MacQuesten?

17 MS. MacQUESTEN: Go ahead.

18 MR. DOMENICI: And we would expect that in 10
19 days, what Mr. Martin is going to propose?

20 MR. MARTIN: I'd be happy to.

21 MR. APODACA: He's going on vacation with Mr.
22 Feldewert, so..

23 MR. MARTIN: I am now.

24 (Laughter)

25 MR. APODACA: Well, I don't know that Mr. Martin

1 could promise that in 10 days --

2 MR. DOMENICI: Okay.

3 MR. APODACA: -- I think he'll try --

4 MR. MARTIN: I'll try.

5 MR. APODACA: -- to produce what he can. But it
6 will be available before June 24th, I'm sure.

7 Ms. MacQuesten?

8 MS. MacQUESTEN: When you said that all parties
9 must submit findings of fact and conclusions of law, do you
10 consider OCD a party?

11 MR. APODACA: I believe you are.

12 (Off the record)

13 MR. APODACA: We'll strike that last comment from
14 the record.

15 Are there any further questions or
16 clarifications?

17 With that, then, Mr. Domenici -- I'm sorry.

18 (Off the record)

19 EXAMINER JONES: With that, let's take closing
20 statements. Let's try to go 10, 15 minutes, somewhere in
21 that vicinity.

22 Mr. Domenici?

23 MR. DOMENICI: I'll try to go less than that.

24 We want to thank the Division for the opportunity
25 to present this Application and present the testimony. I

1 think -- Gandy Marley's focus on this is, in light of its
2 10-year permit history with OCD, of having a landfarm,
3 accepting material, including salts, under that permit with
4 full knowledge of OCD, having that permit limited with
5 virtually no notice and a suggestion to modify that
6 landfarm permit. And Gandy Marley has followed what the
7 Division has suggested and filed a modification.

8 In addition, Gandy Marley followed the procedure
9 that the Division set forth, which is filing the
10 Application. Gandy Marley responded to a letter from the
11 Division indicating what else they needed in the
12 Application, and Gandy Marley intends to continue operating
13 under its original permit with modifications.

14 And I think the way this proceeding went is, the
15 opposition attempted to undermine Gandy Marley's
16 opportunity, and the Division's position, that the
17 modification was the appropriate way to handle this. And
18 essentially they said, we are going to revisit your entire
19 permit. They brought a geotechnical engineer who's doing
20 solid waste and hazardous waste and didn't distinguish at
21 all between what was going to remain the same and what was
22 going to be modified.

23 And we did the opposite, frankly. We -- and my
24 client signed the Application as is required by an
25 applicant, not an engineer. They prepared diagrams, as is

1 required, and they're very similar to what was in the
2 original application, they're very similar to what was in
3 their modification that they already had received, as
4 they're very similar to what their renewal permit was.
5 They followed the protocol and traced the OCD process all
6 the way through this proceeding.

7 And then they brought on witnesses to explain and
8 confirm that they meet the requirements of 711. And I
9 think the only thing we really have to use to interpret 711
10 is the guidance documents and Gandy Marley's existing
11 permit, the modification they've already gone through, and
12 the renewal that they've already gone through. We have a
13 lot of extraneous evidence and information on what
14 possibilities could be done and what landfill liners and
15 leachate collection systems other agencies require that
16 meet performance standards by other agencies.

17 To hold Gandy Marley to that, when they've
18 followed and traced this through as I've just described,
19 and when they've filed a modification to a permit to
20 continue accepting material they've accepted for a decade,
21 and essentially did that after having their landfill permit
22 modified with no notice whatsoever, I think would be
23 improper. I think it would -- not only would undermine the
24 purpose of the RCRA exemption, it would undermine the basic
25 purpose of the OCD having its own statute, its own rules

1 and its own guidelines.

2 And there's nothing that's been persuasive to
3 show that's the case, there's no evidence showing that
4 there's some need to all of a sudden throw out how three
5 other facilities have been permitted, how OCD has handled
6 many landfarms through the permit process, and so now we
7 are going to *de facto* change this to a RCRA facility or a
8 solid waste facility.

9 An example of that is the question of the water
10 supply here. I mean, this is ranching country, it is
11 extremely remote. The property is all controlled by Bill
12 Marley, sitting next to me.

13 And to somehow say, Well, we should bring in
14 someone who does solid waste facilities under NMED and who
15 has knowledge of some unwritten interpretation about yield
16 to say that this perched water that has not been used for
17 decades and decades on this property and has not been taken
18 advantage of to the expense of the rancher, who's put in a
19 whole water system with an old water supply, that doesn't
20 -- that doesn't follow OCD -- statute, Rule or guidelines
21 -- there's nothing that says that's the way this should
22 proceed.

23 The facts should be looked at. This is perched
24 water. It is not going to be -- there's no foreseeability
25 that it will be used for beneficial use, there's exactly

1 the opposite. There's knowledge of what's there, there's
2 testimony that it's not safe for ranching, which is all
3 that takes place here. The owner is not going to use it.
4 The quality is extremely poor. It may not meet the
5 numerical threshold. But there's nothing to say that this
6 water is -- frankly, is regulatorily susceptible of
7 protection.

8 And I think it's clear if this water is not
9 protected regulatorily, there's no water to protect here.
10 All of these statements about leachate collection and
11 impact to the environment, none of those have any weight,
12 because the true groundwater resource is 800 feet through
13 hundreds of feet of clay. And even the witnesses for CRI
14 can see that that -- the geology protects that water.

15 And frankly, even if there is not a specific
16 finding that this perched water needs -- does not need
17 protection, the evidence shows that it's protected anyways.

18 Mr. Bonner has come in after the fact and tried
19 to reinterpret his general characterizations, his
20 interpretations, by pulling out some of the specific
21 geology that he was aware of when he made overall
22 statements that the general stratigraphy here and the
23 predominant stratigraphy was redbed clay. Now that's what
24 he said when he wasn't trying to oppose this permit. He
25 also has confirmed that that is very impermeable.

1 Mr. Mansker also confirmed that to the extent
2 there are limited silts or sands, those also have
3 permeability limitations.

4 So the water resource is protected by the
5 Application. And if the water resources protect it by the
6 Application, we should construct the facility as we
7 proposed. We should follow OCD guidelines, obtain a
8 permit, hire our engineer, have him prepare drawings,
9 submit them to the Division for approval. And to the
10 extent that there are details required regarding
11 construction, sampling during construction for compaction
12 or any of those type of items, those can all be handled in
13 the construction-specification phase of this process.

14 Which is exactly -- if you look back, that's how
15 this permit has proceeded. The 1996 modification was
16 fairly substantial. It was a tank that we've talked about
17 that will take oilbottoms; it has some H₂S concerns. All
18 of that was done on a diagram prepared by the Applicants.
19 It was then constructed based on an approval.

20 So there's a history of these operations
21 successfully proceeding, exactly as they have here.

22 The closure issue is appropriate. You -- As the
23 landfill is filled, it is closed. There is an abundance of
24 clean fill that's going to be available from the excavation
25 activities to be used to construct both berms and cover.

1 The suggestions of Mr. Martin to be attached as
2 conditions, certainly probably are appropriate. We
3 couldn't guess OCD's conditions before we came into this
4 hearing, which I think is what CRI is proposing. We have
5 to have a crystal ball and pre-guess everyone's conditions,
6 essentially without obtaining their comment. Undermines
7 the entire comment process.

8 So this has been an appropriate hearing where
9 we've put out what we were going to do, we've provided
10 evidence, allowed people to be cross-examined on those
11 issues. We've heard from the Division, we're going to hear
12 more. We're prepared to incorporate those comments or
13 respond to them. If we don't think they're appropriate,
14 that will be our -- we will also state that.

15 And I think it's difficult to do this kind of
16 hearing without a lot of -- frankly, without a lot of
17 notice of all the other parties' concerns, but we tried to
18 develop that during the hearing. If you look at the
19 prefiled statements, there's almost no evidence as to what
20 concerns people actually had. So I think it's totally
21 appropriate we are allowed to respond to those concerns
22 when they're actually presented.

23 And I think we've rebutted many of them. I think
24 many of them are essentially trying to set up a different
25 regime for permitting that is not allowed or even suggested

1 or required. But to the extent those are legitimate
2 concerns and they raise that comment or testimony, we
3 should be allowed to respond to those, and I think we have.

4 So we would request that after you look at the
5 final comments, Mr. Hearing Examiner, that you follow the
6 OCD statute, the OCD Rule 711, the guidelines and allow us
7 to modify our landfarm facility to have some cells that are
8 protective of the environment, that are protective of the
9 groundwater, that will be closed as we operate, and allow
10 us to take salt-contaminated wastes.

11 Thank you.

12 MR. FELDEWERT: Eight months ago, the Division
13 informed landfarms that if you want to accept salt -- and
14 I'm quoting -- if you want to accept salt-contaminated
15 cuttings or any other salt-contaminated wastes, your 711
16 permit must be modified to ensure that your acceptance of
17 those wastes will not adversely affect the public health or
18 the environment.

19 In March of this year the Division Director, Mr.
20 Fesmire, sent out a letter following up on this in which he
21 said, and I quote, If a landfarm identified above wishes to
22 accept oilfield waste contaminated with salts, you will
23 need to file an application to modify the permit pursuant
24 to OCD Rule 711.B.(1) and follow the notice requirements of
25 OCD Rule 711.B.(2).

1 In response, Gandy Marley finally submits a bare-
2 bone Application, in response to that March letter. They
3 virtually copied what they had submitted previously to the
4 Division for their landfarm operations, sent in the C-137,
5 and said, oh, this is good enough to have our permit
6 modified in a drastic fashion.

7 And it wasn't until CRI entered its appearance
8 and objected to this process that they finally got around
9 to going out and getting the type of information that you
10 need to ensure that this facility can adequately accept
11 these types of hazardous wastes. And they started that
12 process about two weeks ago.

13 Now, at the beginning of this hearing you
14 correctly determined that Gandy Marley has the burden to
15 establish that its Application meets the requirements of
16 Rule 711 and can demonstrate that this facility can be
17 operated in a safe and efficient fashion for this hazardous
18 waste.

19 They had the burden of coming forth with a plan,
20 with a design, with a location and a demonstration of the
21 means to operate a landfill that essentially is going to
22 act as a hazardous waste facility. These are not -- By all
23 other means these are hazardous wastes, except by this
24 exemption.

25 Now Ed Martin's testimony here at the end, I

1 think, did a very good job of showing that there are indeed
2 problems with the Application and design and location and
3 means that they have thus far put forth to the Division in
4 a very piecemeal fashion. And accordingly, I think his
5 testimony alone demonstrates they have not met their burden
6 of proof in this case.

7 Now, we've all been through the problems and
8 we've all seen the effort to try to supplement -- we
9 continue to get exhibits, and we continue to call
10 witnesses, and we keep trying -- they keep trying to come
11 up with some means by which they can address the problems
12 that should have been dealt with up front immediately when
13 they filed their Application.

14 But of all the evidence that we heard -- okay? --
15 I think the most important is what Dr. Neeper alluded to
16 yesterday. It is undisputed that Gandy Marley has been
17 unable to meet their reporting and monitoring requirements
18 for their landfarm operations since the inception of that
19 permit.

20 They've had this permit for over 10 years, and in
21 the 10-year period, according to the information we have
22 from the Division, which is their file that I received --
23 and this is the only thing we know of now -- they've met
24 their quarterly reporting obligations to the OCD twice, and
25 one of them goes by way of an annual report that was

1 submitted in January of this year.

2 Now, I don't know what else the OCD records show,
3 but Mr. -- but everybody admitted here that they have not
4 met their reporting obligations to this agency. They have
5 not been able to report and monitor their facility which
6 they operate as a landfarm pursuant to the permit that they
7 have now.

8 And secondly, they missed NMED deadlines for
9 their permit. We -- the only evidence -- we don't know how
10 many. Okay? The only evidence we have is from the NMED
11 itself, a notice of violation for a discharge permit that
12 was issued over five years ago, and the dates on that
13 notice of violation indicate they missed virtually every
14 single monitoring and reporting obligation that they have
15 to the NMED.

16 Now, Dr. Neeper said yesterday -- he asked the
17 question, is this Division now going to issue to Gandy
18 Marley yet another permit to operate an even more dangerous
19 facility?

20 It took the NOV -- the notice of violation from
21 the Environment Department before they finally said, Oh,
22 we've got some obligations here for this landfarm.

23 It took this hearing, I submit to you, it took
24 this hearing to dawn on them that they've got some
25 reporting obli- -- monitoring obligations under their

1 landfarm.

2 And by granting this -- if you grant this
3 Application that they've asked for, what are you telling
4 the public? What is the Division telling the public?
5 Exactly what Dr. Neeper told you, and that is, you're
6 telling the public you really don't care about this stuff.

7 Dr. Neeper said he thinks the OCD does not have a
8 good reputation. I don't know if that's right or not,
9 okay? But I'll tell you what, this is not going to help
10 whatever reputation that they have out there.

11 If you come in -- if someone comes in who cannot
12 meet their present reporting obligations for a landfarm and
13 they come in and say, give us a new permit, let us take
14 more hazardous waste, and you grant it, what are you
15 telling the public?

16 I suggest to you that there are some operational
17 problems here that these guys need to deal with. Okay?
18 These are very nice people. Okay? They operate a
19 wonderful -- I'd love to have their ranch. Okay? Ranching
20 is a wonderful lifestyle. But that's what they do. As
21 they -- Bill -- Bill Marley told you, We push cows. Okay?
22 That's their -- That's what they do, that's what they do
23 for a living.

24 And while they are busy pushing their cows, they
25 are missing their obligations. As he said, We're busy --

1 We've been busy on other projects, we just couldn't get
2 around to it. And they still haven't gotten around to it.

3 So I don't -- You know, it's tough meeting these
4 permit obligations. But you have to apply some fault here.
5 I mean, if you're going to operate a ranch and then you're
6 also going to operate a landfarm, you've got to have the
7 means in place to do that, you've got to have the
8 personnel, you've got to have the staff. And the haven't
9 done that yet.

10 And now they want to expand that exponentially by
11 taking hazardous waste at a landfill.

12 Shouldn't the Division wait, shouldn't it wait
13 for a period of time until they are able to demonstrate that
14 they can operate a landfill or a landfarm operation before
15 you give them a permit to operate a landfill? Shouldn't we
16 wait for that?

17 I would suggest also, when you take that into
18 account, and then the fact that now we have these new
19 issues, we have these nebulous ideas, we get these new
20 details that ought to come out, we get Ed Martin's concerns
21 that ought to be addressed -- again, wouldn't we be better
22 off after a period of time, after they can demonstrate that
23 they can operate a landfarming operation, with a new
24 application that actually addresses these issues with these
25 new ideas, with these nebulous ideas, that we can then

1 submit to the public for comment so that they can have a
2 meaningful opportunity to participate and look at how this
3 landfill that's going to accept this kind of waste is going
4 to operate?

5 We haven't had that up to now, I submit to you.
6 The public hasn't seen all this supplementation. They
7 haven't had an opportunity to comment on it until we get it
8 the day of the hearing. Wouldn't we be better off waiting?

9 And I would submit to you that let's not let a
10 short-term economic gain to Gandy Marley be a long-term
11 loss to the citizens of southeast New Mexico. We can wait.
12 We can wait to see if they can operate a landfarm
13 operation, meet all their obligations and, if they can,
14 submit a new application that has these details, has these
15 new ideas, and let the public comment on that and see if
16 that's going to work.

17 But at this point in time, this request should be
18 denied for a number -- a whole host of reasons. But I
19 would submit that primarily it should be denied because
20 they have not met their burden of proof of being able to
21 establish that they have a plan, a design, a location and a
22 means of operating a landfill here in the State of New
23 Mexico that is going to essentially take these hazardous
24 wastes that are going to be there long after everybody in
25 this room are dead.

1 So we ask that this Application be denied.

2 EXAMINER JONES: Okay, thank you very much.

3 With that, Case 13,480, the record will be open
4 until June 24th.

5 And we'll close Examiner Hearing Docket Number
6 16-05, and we're adjourned.

7 (Thereupon, these proceedings were concluded at
8 6:29 p.m.)

9 * * *

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

I hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 13480
heard by me on June 2, 2005
[Signature]
Oil Conservation Division, Examiner

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
 COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL June 1st, 2005.



STEVEN T. BRENNER
 CCR No. 7

My commission expires: October 16th, 2006